

## 1\_1-ARITHMETIC\_WITH\_NEGATIVE\_NUMBERS\_EXERCISES

1. *Correct Answers:*

- -32
- -3

3. *Correct Answers:*

- -11
- -9
- -10

5. *Correct Answers:*

- -7
- 8
- 0

7. *Correct Answers:*

- -4
- 5
- 0

9. *Correct Answers:*

- -3
- 3
- -9

11. *Correct Answers:*

- -5
- -12
- -12

13. *Correct Answers:*

- 3
- -3
- 0

15. *Correct Answers:*

- 30
- -8
- -35
- 0

17. *Correct Answers:*

- -36
- 160
- 0

19. *Correct Answers:*

- 8
- -3

21. *Correct Answers:*

- 10
- -6
- -4

23. *Correct Answers:*

- 10
- -5
- -1
- 1
- undefined
- 0

25. *Correct Answers:*

- 9
- 64
- 25
- -64

27. *Correct Answers:*

- 1
- -1
- 1
- 0

29. *Correct Answers:*

- 9
- -100

31. *Correct Answers:*

- -1
- -8

33. *Correct Answers:*

- -25.04

35. *Correct Answers:*

- 4.47

37. *Correct Answers:*

- 7.37

39. *Correct Answers:*

- -73.95

41. *Correct Answers:*

- 15.01

43. *Correct Answers:*

- \$1,730

45. *Correct Answers:*

- 1720 ft

## 1\_2-FRACTIONS\_AND\_FRACTION\_ARITHMETIC\_EXERCISES

1. Correct Answers:

- $\frac{20}{81}$

3. Correct Answers:

- $\frac{25}{7}$

5. Correct Answers:

- $-\frac{28}{33}$

7. Correct Answers:

- $-20$

9. Correct Answers:

- $\frac{3}{70}$

11. Correct Answers:

- $\frac{25}{48}$

13. Correct Answers:

- $-\frac{6}{25}$

15. Correct Answers:

- $\frac{2}{45}$

17. Correct Answers:

- $16$

19. Correct Answers:

- $2$

21. Correct Answers:

- $\frac{1}{10}$

23. Correct Answers:

- $\frac{49}{60}$

25. Correct Answers:

- $\frac{13}{15}$

27. Correct Answers:

- $\frac{59}{72}$

29. Correct Answers:

- $\frac{1}{2}$

31. Correct Answers:

- $\frac{2}{5}$

33. Correct Answers:

- $\frac{10}{27}$

35. Correct Answers:

- $-\frac{19}{40}$

37. Correct Answers:

- $\frac{15}{4}$

39. Correct Answers:

- $\frac{5}{6}$

41. Correct Answers:

- $\frac{5}{6}$

43. Correct Answers:

- $\frac{7}{25}$

45. Correct Answers:

- $-\frac{7}{15}$

47. Correct Answers:

- $\frac{1}{2}$

49. Correct Answers:

- $-\frac{21}{2}$

51. Correct Answers:

- $\frac{35}{66}$

53. Correct Answers:

- $\frac{14}{15}$

55. Correct Answers:

- $\frac{1}{9}$

57. Correct Answers:

- $\frac{7}{40}$

59. Correct Answers:

- $\frac{1}{6}$

61. Correct Answers:

- $150$

63. Correct Answers:

- $\frac{1}{16}$

65. Correct Answers:

- $135$

67. Correct Answers:

- $900$

69. Correct Answers:

- $110\frac{3}{8}$

71. Correct Answers:

- $1\frac{3}{4}$

73. Correct Answers:

- $2\frac{1}{4}$

### 1.3-ABSOLUTE\_VALUE\_AND\_SQUARE\_ROOT\_EXERCISES

1. *Correct Answers:*

- 9

3. *Correct Answers:*

- 4
- 4
- -4
- -4

5. *Correct Answers:*

- 5
- 7
- 0
- 17
- 4

7. *Correct Answers:*

- -5
- 13
- -10

9. *Correct Answers:*

- BCD

11. *Correct Answers:*

- 2
- 4
- 6

13. *Correct Answers:*

- $\frac{5}{7}$
- DNE

15. *Correct Answers:*

- 8

- 0.8

- 80

17. *Correct Answers:*

- 10
- 100
- 1000

19. *Correct Answers:*

- 1
- 0.1
- 0.01

21. *Correct Answers:*

- 5.29

23. *Correct Answers:*

- $\frac{6}{11}$

25. *Correct Answers:*

- -9

27. *Correct Answers:*

- not a real number

29. *Correct Answers:*

- not a real number or  $0.181818i$

31. *Correct Answers:*

- $-\frac{5}{9}$

33. *Correct Answers:*

- 2
- 6

35. *Correct Answers:*

- $\frac{9}{5}$

## 1\_4-ORDER\_OF\_OPERATIONS\_EXERCISES

1. *Correct Answers:*
  - 67
3. *Correct Answers:*
  - 14
5. *Correct Answers:*
  - 36
7. *Correct Answers:*
  - 81
9. *Correct Answers:*
  - 30
11. *Correct Answers:*
  - 4
13. *Correct Answers:*
  - 26
15. *Correct Answers:*
  - -48
17. *Correct Answers:*
  - 23
19. *Correct Answers:*
  - 9
21. *Correct Answers:*
  - 33
23. *Correct Answers:*
  - 14
25. *Correct Answers:*
  - 93
27. *Correct Answers:*
  - 2
29. *Correct Answers:*
  - 174
31. *Correct Answers:*
  - 18
33. *Correct Answers:*
  - 79
35. *Correct Answers:*
  - 130
37. *Correct Answers:*
  - 3
39. *Correct Answers:*
  - 2
41. *Correct Answers:*
  - -13
43. *Correct Answers:*
  - -37

45. *Correct Answers:*
  - -3
47. *Correct Answers:*
  - -14
49. *Correct Answers:*
  - -82
51. *Correct Answers:*
  - -500
53. *Correct Answers:*
  - -37
55. *Correct Answers:*
  - 37
57. *Correct Answers:*
  - 1
59. *Correct Answers:*
  - $\frac{6}{7}$
61. *Correct Answers:*
  - 2
63. *Correct Answers:*
  - $-\frac{39}{5}$
65. *Correct Answers:*
  - $\frac{286}{81}$
67. *Correct Answers:*
  - $-\frac{31}{60}$
69. *Correct Answers:*
  - 3
71. *Correct Answers:*
  - 16
73. *Correct Answers:*
  - -38
75. *Correct Answers:*
  - -42
77. *Correct Answers:*
  - 9
79. *Correct Answers:*
  - 15
81. *Correct Answers:*
  - -3
83. *Correct Answers:*
  - -7
85. *Correct Answers:*
  - -30
87. *Correct Answers:*
  - -160

## 1.5-SET NOTATION AND TYPES OF NUMBERS EXERCISES

1. *Correct Answers:*

- $\{-1, 1\}$

3. *Correct Answers:*

- $\{16, 25, 36, 49, 64, 81\}$

5. *Correct Answers:*

- AB

7. *Correct Answers:*

- ABCH

9. *Correct Answers:*

- ABCDEG

11. *Correct Answers:*

- CG

13. *Correct Answers:*

- ABCDEFGH

15. *Correct Answers:*

- F
- T
- F
- F
- F

17. *Correct Answers:*

- DNE or NONE
- any of  $-1, -2, -3, \dots$
- many possibilities:  $\frac{1}{2}, 2, 3, \dots$
- many possibilities:  $\sqrt{2}, \pi, \dots$
- DNE or NONE

19. *Correct Answers:*

- $\frac{199}{20}$

21. *Correct Answers:*

- $\frac{28}{99}$

23. *Correct Answers:*

- $\frac{2159}{330}$

## 1.6-COMPARISON\_SYMBOLS\_EXERCISES

1. *Correct Answers:*

- $10 > 8 > 5 > -3 > -9$

3. *Correct Answers:*

- $7.48 > 3.67 > 1.68 > 1.11 > -5.73$

5. *Correct Answers:*

- $10 > 7 > -\frac{1}{3} > -\frac{20}{7} > -10$

7. *Correct Answers:*

- $3 > \sqrt{3} > \sqrt{2} > \frac{3}{5} > \frac{2}{7} > -5$

9. *Correct Answers:*

- False
- True
- True
- True
- False
- False

11. *Correct Answers:*

- False
- False

- True
- True
- True
- True

13. *Correct Answers:*

- $<$

15. *Correct Answers:*

- $>$

17. *Correct Answers:*

- $>$

19. *Correct Answers:*

- $<$

21. *Correct Answers:*

- $<$

23. *Correct Answers:*

- $=$

25. *Correct Answers:*

- True

## 1.7-NOTATION\_FOR\_INTERVALS\_EXERCISES

**1. Correct Answers:**

- $\{x \mid x > 3\}$
- $(3, \infty)$
- $\{x \mid x \geq -4\}$
- $[-4, \infty)$
- $\{x \mid x < 4\}$
- $(-\infty, 4)$

**3. Correct Answers:**

- $\{a \mid a > -2.5\}$
- $(-2.5, \infty)$

**5. Correct Answers:**

- $\{B \mid B \geq -0.5\}$
- $[-0.5, \infty)$

**7. Correct Answers:**

- $\{p \mid p < 1\}$
- $(-\infty, 1)$

**9. Correct Answers:**

- $\{r \mid r \leq 3\}$
- $(-\infty, 3]$

**11. Correct Answers:**

- $(-\infty, -9]$

**13. Correct Answers:**

- $[-4, \infty)$

**15. Correct Answers:**

- $(-\infty, 1)$

**17. Correct Answers:**

- $(5, \infty)$

**19. Correct Answers:**

- $(-\infty, 10)$

**21. Correct Answers:**

- $(-\infty, -6]$

**23. Correct Answers:**

- $[-2, \infty)$

**25. Correct Answers:**

- $(3, \infty)$

**27. Correct Answers:**

- $(\frac{9}{10}, \infty)$

**29. Correct Answers:**

- $(-\infty, -\frac{1}{4}]$

**31. Correct Answers:**

- $(-\infty, 0]$

## 2\_1-VARIABLES\_AND\_EVALUATING\_EXPRESSIONS\_EXERCISES

1. Correct Answers:

- 11

3. Correct Answers:

- -19

5. Correct Answers:

- 6

7. Correct Answers:

- -40

9. Correct Answers:

- 12

11. Correct Answers:

- -52

13. Correct Answers:

- $\frac{3}{4}$

15. Correct Answers:

- $\frac{17}{27}$

17. Correct Answers:

- $-\frac{25}{4}$

19. Correct Answers:

- 36
- 81

21. Correct Answers:

- 125
- -125

23. Correct Answers:

- 32
- 64

25. Correct Answers:

- -4
- -8

27. Correct Answers:

- 9
- 27

29. Correct Answers:

- 12
- -48

31. Correct Answers:

- 15
- 12
- -12
- 270

33. Correct Answers:

- -3

35. Correct Answers:

- 70

37. Correct Answers:

- 176

39. Correct Answers:

- $\frac{41}{34}$

41. Correct Answers:

- $\frac{2}{3}$

43. Correct Answers:

- $\frac{35}{8}$

45. Correct Answers:

- 13

47. Correct Answers:

- $\frac{62}{9}$

49. Correct Answers:

- $-\frac{36}{7}$

51. Correct Answers:

- 140 m<sup>2</sup>
- 48 m

53. Correct Answers:

- 120 ft<sup>2</sup>

55. Correct Answers:

- 16920 in<sup>2</sup>

57. Correct Answers:

- 143 m<sup>2</sup>

59. Correct Answers:

- 6π m
- 18.85 m
- 9π m<sup>2</sup>
- 28.27 m<sup>2</sup>

61. Correct Answers:

- 46644 in<sup>3</sup>

63. Correct Answers:

- 780 in<sup>3</sup>

65. Correct Answers:

- 324π m<sup>3</sup>
- 1017.88 m<sup>3</sup>

67. Correct Answers:

- 10.4 m

69. Correct Answers:

- -5 degC

71. Correct Answers:

- 36.08

73. Correct Answers:

- 31.4%

75. Correct Answers:

- 141

77. Correct Answers:

- 10 ft

79. Correct Answers:

- 4.26 ft
- 3.66 ft



## 2\_2-EQUATIONS\_AND\_INEQUALITIES\_AS\_TRUEFALSE\_STATEMENTS\_EXERCISES

1. *Correct Answers:*

- No

3. *Correct Answers:*

- No

5. *Correct Answers:*

- No

7. *Correct Answers:*

- No

9. *Correct Answers:*

- No

11. *Correct Answers:*

- Yes

13. *Correct Answers:*

- Yes

15. *Correct Answers:*

- No

17. *Correct Answers:*

- Yes

19. *Correct Answers:*

- is
- is not
- is not
- is not

21. *Correct Answers:*

- is not
- is
- is
- is

23. *Correct Answers:*

- is not
- is
- is
- is

25. *Correct Answers:*

- No

27. *Correct Answers:*

- No

29. *Correct Answers:*

- No

31. *Correct Answers:*

- Yes

33. *Correct Answers:*

- Yes

35. *Correct Answers:*

- Yes

37. *Correct Answers:*

- Yes

## 2\_3-SOLVING\_ONESTEP\_EQUATIONS\_EXERCISES

1. *Correct Answers:*

- {5}

3. *Correct Answers:*

- {-9}

5. *Correct Answers:*

- {-10}

7. *Correct Answers:*

- {-1}

9. *Correct Answers:*

- {-69}

11. *Correct Answers:*

- {6}

13. *Correct Answers:*

- {-7}

15. *Correct Answers:*

- {2}

17. *Correct Answers:*

- {-10}

19. *Correct Answers:*

- {-6}

21. *Correct Answers:*

- {8}

23. *Correct Answers:*

- {0}

25. *Correct Answers:*

- $\{-\frac{1}{10}\}$

27. *Correct Answers:*

- $\{-\frac{65}{28}\}$

29. *Correct Answers:*

- {5}

31. *Correct Answers:*

- {-3}

33. *Correct Answers:*

- {0}

35. *Correct Answers:*

- {63}

37. *Correct Answers:*

- {32}

39. *Correct Answers:*

- $\{\frac{5}{2}\}$

41. *Correct Answers:*

- $\{-\frac{28}{3}\}$

43. *Correct Answers:*

- $\{-\frac{7}{2}\}$

45. *Correct Answers:*

- {-24}

47. *Correct Answers:*

- {35}

49. *Correct Answers:*

- $\{-\frac{1}{15}\}$

51. *Correct Answers:*

- {20}

53. *Correct Answers:*

- {14}

55. *Correct Answers:*

- {4}
- {12}

57. *Correct Answers:*

- {-10}
- {55}

59. *Correct Answers:*

- {-12}
- {12}

61. *Correct Answers:*

- {-50}
- {50}

63. *Correct Answers:*

- {-15}
- {15}

65. *Correct Answers:*

- {5}
- $\{\frac{13}{4}\}$

67. *Correct Answers:*

- {-2}
- $\{-\frac{13}{4}\}$

69. *Correct Answers:*

- 8 mm
- 4 mm

71. *Correct Answers:*

- 13.05 cm
- 6.53 cm

73. *Correct Answers:*

- 8 in
- 16 in

75. *Correct Answers:*

- 3.99 mm
- 7.98 mm

77. *Correct Answers:*

- 3 m

79. *Correct Answers:*

- 24 mm

81. *Correct Answers:*

- 24 ft

83. *Correct Answers:*

- 11 m

## 2\_4-SOLVING\_ONESTEP\_INEQUALITIES\_EXERCISES

1. *Correct Answers:*

- $\{x \mid x > 7\}$  or  $\{x \mid 7 < x\}$
- $(7, \infty)$

3. *Correct Answers:*

- $\{x \mid x \leq 9\}$  or  $\{x \mid 9 \geq x\}$
- $(-\infty, 9]$

5. *Correct Answers:*

- $\{x \mid x \geq -3\}$  or  $\{x \mid -3 \leq x\}$
- $[-3, \infty)$

7. *Correct Answers:*

- $\{x \mid x < 14\}$  or  $\{x \mid 14 > x\}$
- $(-\infty, 14)$

9. *Correct Answers:*

- $\{x \mid x \leq 4\}$  or  $\{x \mid 4 \geq x\}$
- $(-\infty, 4]$

11. *Correct Answers:*

- $\left\{x \mid x > \frac{5}{4}\right\}$
- $\left(\frac{5}{4}, \infty\right)$

13. *Correct Answers:*

- $\{x \mid x \leq -3\}$  or  $\{x \mid -3 \geq x\}$
- $(-\infty, -3]$

15. *Correct Answers:*

- $\{x \mid x \geq -4\}$  or  $\{x \mid -4 \leq x\}$
- $[-4, \infty)$

17. *Correct Answers:*

- $\{x \mid x < -2\}$  or  $\{x \mid -2 > x\}$
- $(-\infty, -2)$

19. *Correct Answers:*

- $\{x \mid x \geq -4\}$  or  $\{x \mid -4 \leq x\}$
- $[-4, \infty)$

21. *Correct Answers:*

- $\{x \mid x > 7\}$  or  $\{x \mid 7 < x\}$
- $(7, \infty)$

23. *Correct Answers:*

- $\{x \mid x \geq -15\}$  or  $\{x \mid -15 \leq x\}$
- $[-15, \infty)$

25. *Correct Answers:*

- $\{x \mid x > -7\}$  or  $\{x \mid -7 < x\}$
- $(-7, \infty)$

27. *Correct Answers:*

- $\{x \mid x < 7\}$  or  $\{x \mid 7 > x\}$
- $(-\infty, 7)$

29. *Correct Answers:*

- $\{x \mid x > -4\}$  or  $\{x \mid -4 < x\}$
- $(-4, \infty)$

31. *Correct Answers:*

- $\{x \mid x < 2\}$  or  $\{x \mid 2 > x\}$
- $(-\infty, 2)$

33. *Correct Answers:*

- $\{x \mid x \leq 28\}$
- $(-\infty, 28]$

35. *Correct Answers:*

- $\{z \mid z > 36\}$
- $(36, \infty)$

## 2.5-ONESTEP\_EQUATIONS\_WITH\_PERCENTAGES\_EXERCISES

1. *Correct Answers:*
  - 34.8
3. *Correct Answers:*
  - 616
5. *Correct Answers:*
  - 2813
7. *Correct Answers:*
  - 30%
9. *Correct Answers:*
  - 180%
11. *Correct Answers:*
  - 77.78%
13. *Correct Answers:*
  - 870
15. *Correct Answers:*
  - 170
17. *Correct Answers:*
  - 370
19. *Correct Answers:*
  - 1085
21. *Correct Answers:*
  - \$49.88
23. *Correct Answers:*
  - 90%
25. *Correct Answers:*
  - 10%
27. *Correct Answers:*
  - 152
29. *Correct Answers:*
  - 5.74%
31. *Correct Answers:*
  - 28%
33. *Correct Answers:*
  - 12800
35. *Correct Answers:*
  - \$21,700.00
37. *Correct Answers:*
  - \$35.00
39. *Correct Answers:*
  - 75 g
41. *Correct Answers:*
  - 30%
43. *Correct Answers:*
  - 86.36%
45. *Correct Answers:*
  - 0.81%
47. *Correct Answers:*
  - \$39,360
  - \$40,934.40
49. *Correct Answers:*
  - 8.45%
51. *Correct Answers:*
  - \$144,060
53. *Correct Answers:*
  - 300

## 2.6-MODELING\_WITH\_EQUATIONS\_AND\_INEQUALITIES\_EXERCISES

1. *Correct Answers:*

- $s + 0.025s = 46125$

3. *Correct Answers:*

- $p - 0.05p = 218.5$

5. *Correct Answers:*

- $p + 0.005p = 1507.5$

7. *Correct Answers:*

- $0.77m + 23.4 = 72.68$

9. *Correct Answers:*

- $\frac{3325}{2500} = \frac{t}{2100}$

11. *Correct Answers:*

- $8.3454g + 81 = 1900$

13. *Correct Answers:*

- $90 + 8m = 266$

15. *Correct Answers:*

- $x + 9$

17. *Correct Answers:*

- $t + 2$

19. *Correct Answers:*

- $5 - A$

21. *Correct Answers:*

- $m - 8$

23. *Correct Answers:*

- $1 - q$

25. *Correct Answers:*

- $r - 5$

27. *Correct Answers:*

- $8b + 5$

29. *Correct Answers:*

- $4B - 1$

31. *Correct Answers:*

- $\frac{2}{n} - 4$

33. *Correct Answers:*

- $7x = 56$

35. *Correct Answers:*

- $48 - t = 32$

37. *Correct Answers:*

- $\frac{c}{11} = \frac{12}{11}$

39. *Correct Answers:*

- $\frac{21}{m} = \frac{7}{5}$

41. *Correct Answers:*

- $7q + 9 = 58$

43. *Correct Answers:*

- $3r - 1 = 26$

45. *Correct Answers:*

- $5b + 8 = 33$

47. *Correct Answers:*

- $7(B + 7) = 231$

49. *Correct Answers:*

- $\frac{1}{2}n$

51. *Correct Answers:*

- $\frac{12}{26}x$

53. *Correct Answers:*

- $t - \frac{7}{16}t$

55. *Correct Answers:*

- $c - \frac{3}{4} = \frac{1}{4}c$

57. *Correct Answers:*

- $\frac{1}{9}C - 7 = \frac{3}{2}C$

## 2\_7-INTRODUCTION\_TO\_EXPONENT\_RULES\_EXERCISES

1. *Correct Answers:*

- 9
- 64
- 25
- -64

3. *Correct Answers:*

- 25
- -4

5. *Correct Answers:*

- -8
- -1

7. *Correct Answers:*

- $9^7$

9. *Correct Answers:*

- $3^{13}$

11. *Correct Answers:*

- $x^{12}$

13. *Correct Answers:*

- $t^{24}$

15. *Correct Answers:*

- $17^{72}$

17. *Correct Answers:*

- $r^{24}$

19. *Correct Answers:*

- $9r^2$

21. *Correct Answers:*

- $64y^3t^3$

23. *Correct Answers:*

- $16x^{36}$

25. *Correct Answers:*

- $-21x^{24}$

27. *Correct Answers:*

- $\frac{y^{15}}{56}$

29. *Correct Answers:*

- $-100y^{33}$

31. *Correct Answers:*

- $100y^{10}$
- $-100y^{10}$

33. *Correct Answers:*

- $49y^{20}$

## 2\_8-SIMPLIFYING\_EXPRESSIONS\_EXERCISES

1. Correct Answers:

- 3

3. Correct Answers:

- $\frac{1}{2}$

5. Correct Answers:

- $(n + 12) + a$

7. Correct Answers:

- $(12 + 19) + x$

9. Correct Answers:

- $(10 \cdot 9)t$

11. Correct Answers:

- $21 + c$

13. Correct Answers:

- $73 + 5c$

15. Correct Answers:

- $4(82 + p)$

17. Correct Answers:

- $y \cdot 12$

19. Correct Answers:

- $42 + a \cdot 10$

21. Correct Answers:

- $(m + 79) \cdot 6$

23. Correct Answers:

- $2n + 14$

25. Correct Answers:

- $-7x + 7$

27. Correct Answers:

- $-t - 3$

29. Correct Answers:

- $9c + 22$

31. Correct Answers:

- $-4t + 42$

33. Correct Answers:

- $7p$

35. Correct Answers:

- $-3y + 6$

37. Correct Answers:

- $\frac{3}{2}a - 15$

39. Correct Answers:

- $\frac{1}{2}c - \frac{20}{3}$

41. Correct Answers:

- $(n + m) + y$
- $n + (m + y)$

43. Correct Answers:

- distributive property
- commutative property of addition
- associative property of addition
- distributive property
- commutative property of addition

45. Correct Answers:

- $T = 0.91x + 9.7$

47. Correct Answers:

- $-x^2 - 8x$

49. Correct Answers:

- $48x^2 - 72x$

51. Correct Answers:

- $8x^3 - 32x^2$

53. Correct Answers:

- $-49x^4 - 42x^3$

55. Correct Answers:

- $2a^4$
- $a^8$
- $a^4 + a$
- $a^5$

57. Correct Answers:

- $5r^2$
- $9r^4$
- $3r^2 - r$
- $-3r^3$

59. Correct Answers:

- $4m^3 + 3m^2$
- $8m^7$

61. Correct Answers:

- $27x^{11}$

63. Correct Answers:

- $-64t^{27}y^{15}$

65. Correct Answers:

- $-18c^8$

67. Correct Answers:

- $80m^{13} - 5m^9$

69. Correct Answers:

- $53p^{17}$

71. Correct Answers:

- $-29y^{12}a^{12}$

73. Correct Answers:

- $-10a^2 + 5a$

75. Correct Answers:

- $-8q^4 - 8q^3$

77. Correct Answers:

- $18m^2 + 30m + 4$

79. Correct Answers:

- $4q^3 + 9q$

81. Correct Answers:

- $3t^6 - 15t^3$

83. Correct Answers:

- $-46x + 22$

85. Correct Answers:

- $32x - 70$

### 3\_1-SOLVING\_MULTISTEP\_LINEAR\_EQUATIONS\_AND\_INEQUALITIES\_EXERCISES

1. *Correct Answers:*

- {3}

3. *Correct Answers:*

- {10}

5. *Correct Answers:*

- {-3}

7. *Correct Answers:*

- {3}

9. *Correct Answers:*

- {-6}

11. *Correct Answers:*

- {-4}

13. *Correct Answers:*

- {-5}

15. *Correct Answers:*

- {-2}

17. *Correct Answers:*

- 18

19. *Correct Answers:*

- 430

21. *Correct Answers:*

- 46

23. *Correct Answers:*

- {10}

25. *Correct Answers:*

- {4}

27. *Correct Answers:*

- {-2}

29. *Correct Answers:*

- $\{\frac{1}{2}\}$

31. *Correct Answers:*

- {4}
- {10}

33. *Correct Answers:*

- 18

35. *Correct Answers:*

- 88

37. *Correct Answers:*

- 13

39. *Correct Answers:*

- {6}

41. *Correct Answers:*

- {10}

43. *Correct Answers:*

- {-6}

45. *Correct Answers:*

- {-2}

47. *Correct Answers:*

- {-5}

49. *Correct Answers:*

- {5}

51. *Correct Answers:*

- {-7}

53. *Correct Answers:*

- {0}

55. *Correct Answers:*

- {-7}

57. *Correct Answers:*

- {-4}

59. *Correct Answers:*

- {5}

61. *Correct Answers:*

- {0}

63. *Correct Answers:*

- 74 m
- 88 m

65. *Correct Answers:*

- 186

67. *Correct Answers:*

- \$541
- \$130

69. *Correct Answers:*

- {6}

71. *Correct Answers:*

- {-4}

73. *Correct Answers:*

- {-9}

75. *Correct Answers:*

- {-9}

77. *Correct Answers:*

- {-4}

79. *Correct Answers:*

- {3}

81. *Correct Answers:*

- {7}

83. *Correct Answers:*

- {10}

85. *Correct Answers:*

- {-7}
- {-9}

87. *Correct Answers:*

- {-7}

89. *Correct Answers:*

- {3}

91. *Correct Answers:*

- {-9}



93. Correct Answers:

- $\{1\}$

95. Correct Answers:

- $\{10\}$

97. Correct Answers:

- $\{-2\}$

99. Correct Answers:

- $\{5\}$

101. Correct Answers:

- $\{5\}$

103. Correct Answers:

- $\{5\}$

105. Correct Answers:

- $\{-6\}$

107. Correct Answers:

- $\{0\}$

109. Correct Answers:

- 11 cm

111. Correct Answers:

- 25 in
- 32 in

113. Correct Answers:

- 11 ft
- 39 ft

115. Correct Answers:

- $\{0\}$
- $\{12\}$
- $\{-12\}$
- $\{0\}$

117. Correct Answers:

- $\{6\}$
- 4

119. Correct Answers:

- $\{6\}$
- 9
- $4t - 15$

121. Correct Answers:

- True
- True
- False
- False
- True
- True
- True
- False

123. Correct Answers:

- $\{x \mid x > 2\}$  or  $\{x \mid 2 < x\}$
- $(2, \infty)$

125. Correct Answers:

- $\{x \mid x \leq 9\}$  or  $\{x \mid 9 \geq x\}$
- $(-\infty, 9]$

127. Correct Answers:

- $\{x \mid x \leq -8\}$  or  $\{x \mid -8 \geq x\}$
- $(-\infty, -8]$

129. Correct Answers:

- $\{x \mid x > 6\}$  or  $\{x \mid 6 < x\}$
- $(6, \infty)$

131. Correct Answers:

- $\{x \mid x \geq 0\}$  or  $\{x \mid 0 \leq x\}$
- $[0, \infty)$

133. Correct Answers:

- $\{x \mid x > 10\}$  or  $\{x \mid 10 < x\}$
- $(10, \infty)$

135. Correct Answers:

- $\{x \mid x \geq 3\}$  or  $\{x \mid 3 \leq x\}$
- $[3, \infty)$

137. Correct Answers:

- $\{t \mid t < 5\}$  or  $\{t \mid 5 \geq t\}$
- $(-\infty, 5)$

139. Correct Answers:

- $\{z \mid z \geq 6\}$  or  $\{z \mid 6 \leq z\}$
- $[6, \infty)$

141. Correct Answers:

- $\{a \mid a > 9\}$  or  $\{a \mid 9 < a\}$
- $(9, \infty)$

143. Correct Answers:

- $\{p \mid p \leq 0\}$  or  $\{p \mid 0 \geq p\}$
- $(-\infty, 0]$

145. Correct Answers:

- $\{p \mid p < -7\}$  or  $\{p \mid -7 > p\}$
- $(-\infty, -7)$

147. Correct Answers:

- $\{x \mid x \leq -2\}$  or  $\{x \mid -2 \geq x\}$
- $(-\infty, -2]$

149. Correct Answers:

- $\{z \mid z \leq 7\}$  or  $\{z \mid 7 \geq z\}$
- $(-\infty, 7]$

151. Correct Answers:

- $\{y \mid y > 4\}$  or  $\{y \mid 4 < y\}$
- $(4, \infty)$

153. Correct Answers:

- $\{x \mid x < 8\}$  or  $\{x \mid 8 > x\}$
- $(-\infty, 8)$

155. Correct Answers:

- $40 + 2.7x \leq 148$
- 40
- $[0, 40]$

### 3\_2-LINEAR EQUATIONS AND INEQUALITIES WITH FRACTIONS EXERCISES

1. Correct Answers:

- {12}

3. Correct Answers:

- {24}

5. Correct Answers:

- {30}
- {30}
- {30}
- {-30}

7. Correct Answers:

- {12}

9. Correct Answers:

- {54}

11. Correct Answers:

- {40}

13. Correct Answers:

- {35}

15. Correct Answers:

- {24}

17. Correct Answers:

- $\{\frac{30}{13}\}$

19. Correct Answers:

- $\{-\frac{77}{60}\}$

21. Correct Answers:

- {-31}

23. Correct Answers:

- {4}

25. Correct Answers:

- $\{\frac{10}{37}\}$

27. Correct Answers:

- {3}

29. Correct Answers:

- $\{\frac{35}{24}\}$

31. Correct Answers:

- {14}

33. Correct Answers:

- {8}

35. Correct Answers:

- $\{-\frac{3}{46}\}$

37. Correct Answers:

- $\{-\frac{72}{77}\}$

39. Correct Answers:

- $\{-\frac{21}{92}\}$

41. Correct Answers:

- {20}

43. Correct Answers:

- {-12}

45. Correct Answers:

- {27}

47. Correct Answers:

- $\{-\frac{64}{15}\}$

49. Correct Answers:

- {18}

51. Correct Answers:

- $\{\frac{67}{8}\}$

53. Correct Answers:

- {8}

55. Correct Answers:

- {-4}

57. Correct Answers:

- $\{-\frac{52}{189}\}$

59. Correct Answers:

- {144}

61. Correct Answers:

- {72}

63. Correct Answers:

- {56}

65. Correct Answers:

- $\{\frac{6}{7}\}$

67. Correct Answers:

- $\{-\frac{176}{5}\}$

69. Correct Answers:

- $\{\frac{680}{567}\}$

71. Correct Answers:

- 12

73. Correct Answers:

- 21

75. Correct Answers:

- $\{x \mid x \leq 20\}$  or  $\{x \mid 20 \geq x\}$
- $(-\infty, 20]$

77. Correct Answers:

- $\{y \mid y > -\frac{11}{12}\}$
- $(-\frac{11}{12}, \infty)$

79. Correct Answers:

- $\{t \mid t < 42\}$
- $(-\infty, 42)$

81. Correct Answers:

- $\{x \mid x \leq 30\}$
- $(-\infty, 30]$

83. Correct Answers:

- $\{z \mid z > 35\}$
- $(35, \infty)$

85. Correct Answers:

- $\{x \mid x \geq -20\}$
- $[-20, \infty)$

87. Correct Answers:

- $\{y \mid y \leq -21\}$
- $(-\infty, -21]$

**89.** *Correct Answers:*

- $\{x \mid x > -8\}$
- $(-8, \infty)$

**91.** *Correct Answers:*

- $\frac{160+x}{3} \geq 77$
- 71
- $[71, 100]$

### 3\_3-ISOLATING\_A\_LINEAR\_VARIABLE\_EXERCISES

1. Correct Answers:

- $y = 6$
- $x = n - q$

3. Correct Answers:

- $r = 8$
- $y = 3 + m$

5. Correct Answers:

- $t = 10$
- $r = p - m$

7. Correct Answers:

- $t = 2$
- $x = \frac{b}{c}$

9. Correct Answers:

- $x = 14$
- $y = tn$

11. Correct Answers:

- $y = 8$
- $r = \frac{a-C}{t}$

13. Correct Answers:

- $r = \frac{q}{t}$
- $t = \frac{q}{r}$

15. Correct Answers:

- $t = m - y$
- $y = m - t$

17. Correct Answers:

- $y = x - Br$
- $B = \frac{x-y}{r}$

19. Correct Answers:

- $a = \frac{y-x}{p}$
- $p = \frac{y-x}{a}$

21. Correct Answers:

- $x = \frac{y+b}{m}$

23. Correct Answers:

- $b = 7$
- $b = \frac{2A}{h}$

25. Correct Answers:

- $r = \frac{C}{2\pi}$

27. Correct Answers:

- $x = 8$
- $x = tn - 5t$

29. Correct Answers:

- $y = rb - rt$

31. Correct Answers:

- $r = 5C - 5y$

33. Correct Answers:

- $p = \left(-\frac{xr-xa}{5}\right)$

35. Correct Answers:

- $x = \frac{C-By}{A}$

### 3\_4-RATIOS\_AND\_PROPORTIONS\_EXERCISES

1. *Correct Answers:*

- 8

3. *Correct Answers:*

- 8

5. *Correct Answers:*

- -16

7. *Correct Answers:*

- 28

9. *Correct Answers:*

- -5

11. *Correct Answers:*

- -2

13. *Correct Answers:*

- -27

15. *Correct Answers:*

- -58

17. *Correct Answers:*

- 13.2 ft

19. *Correct Answers:*

- 20 ft

21. *Correct Answers:*

- 70

23. *Correct Answers:*

- \$253

25. *Correct Answers:*

- \$345.17

27. *Correct Answers:*

- 28.2 mi

29. *Correct Answers:*

- \$38.61

31. *Correct Answers:*

- 2850

33. *Correct Answers:*

- \$4,866.40

35. *Correct Answers:*

- 182

37. *Correct Answers:*

- 1100.4 lb

### 3\_5-SPECIAL\_SOLUTION\_SETS\_EXERCISES

1. *Correct Answers:*

- no solution

3. *Correct Answers:*

- all real numbers

5. *Correct Answers:*

- all real numbers

7. *Correct Answers:*

- no solution

9. *Correct Answers:*

- $\{0\}$
- all real numbers
- no solution

11. *Correct Answers:*

- no solution

13. *Correct Answers:*

- all real numbers

15. *Correct Answers:*

- no solution

17. *Correct Answers:*

- no solution

19. *Correct Answers:*

- no solution

21. *Correct Answers:*

- $(-\infty, \infty)$  or all real numbers

23. *Correct Answers:*

- no solution

25. *Correct Answers:*

- no solution

27. *Correct Answers:*

- $(-\infty, \infty)$  or all real numbers

29. *Correct Answers:*

- $(-\infty, \infty)$  or all real numbers

31. *Correct Answers:*

- $(-\infty, \infty)$  or all real numbers

## 4\_1-CARTESIAN\_COORDINATES\_EXERCISES

**1. Correct Answers:**

- $(-4, -6)$
- $(-2, 4)$
- $(0, 2)$
- $(-7, 0)$

**13. Correct Answers:**

- $(2011, 35)$
- 16
- $(2008, 5), (2010, 19), (2012, 51)$

**15. Correct Answers:**

- I
- II
- III
- IV

**17. Correct Answers:**

- the x-axis
- Quadrant II
- Quadrant III
- Quadrant I
- the y-axis
- Quadrant IV

**19. Correct Answers:**

- III
- IV
- III

**21. Correct Answers:**

- It is difficult to draw an appropriate scale.

## 4\_2-GRAPHING\_EQUATIONS\_EXERCISES

**1. Correct Answers:**

- AB

**3. Correct Answers:**

- BCD

**5. Correct Answers:**

- BC

**7. Correct Answers:**

- CD

**9. Correct Answers:**

- 10
- $(-2, 10)$
- 9
- $(-1, 9)$
- 8
- $(0, 8)$
- 7
- $(1, 7)$
- 6
- $(2, 6)$

**11. Correct Answers:**

- -11
- $(-2, -11)$
- -5
- $(-1, -5)$
- 1
- $(0, 1)$
- 7
- $(1, 7)$
- 13
- $(2, 13)$

**13. Correct Answers:**

- 14
- $(-2, 14)$
- 9
- $(-1, 9)$

- 4
- $(0, 4)$
- -1
- $(1, -1)$
- -6
- $(2, -6)$

**15. Correct Answers:**

- -13
- $(-16, -13)$
- -10
- $(-8, -10)$
- -7
- $(0, -7)$
- -4
- $(8, -4)$
- -1
- $(16, -1)$

**17. Correct Answers:**

- 24
- $(-20, 24)$
- 17
- $(-10, 17)$
- 10
- $(0, 10)$
- 3
- $(10, 3)$
- -4
- $(20, -4)$

**19. Correct Answers:**

- -1; -14; 0; 0; 1; 14; 2; 28; 3; 42

**21. Correct Answers:**

- -1; 11; 0; 1; 1; -9; 2; -19; 3; -29

**23. Correct Answers:**

- -8; -8; 0; -5; 8; -2; 16; 1; 24; 4

**25. Correct Answers:**

- -12; 0; 0; -7; 12; -14; 24; -21; 36; -28



#### 4\_3-EXPLORING\_TWO VARIABLE\_DATA\_AND\_RATE\_OF\_CHANGE\_EXERCISES

**1. Correct Answers:**

- $y = 4x$

**3. Correct Answers:**

- $y = x + 5$

**5. Correct Answers:**

- $y = x - 7$

**7. Correct Answers:**

- $y = \sqrt{x}$

**9. Correct Answers:**

- $y = x^2$

**11. Correct Answers:**

- $y = \frac{1}{x}$

**13. Correct Answers:**

- 3480.19

- 8598

- 1997, 2003

#### 4\_4-SLOPE\_EXERCISES

1. *Correct Answers:*

- 2

3. *Correct Answers:*

- -3

5. *Correct Answers:*

- $\frac{7}{2}$

7. *Correct Answers:*

- $-\frac{9}{5}$

9. *Correct Answers:*

- 0

11. *Correct Answers:*

- DNE or NONE

13. *Correct Answers:*

- 3

15. *Correct Answers:*

- -1

17. *Correct Answers:*

- 1

19. *Correct Answers:*

- -3

21. *Correct Answers:*

- -3

23. *Correct Answers:*

- $\frac{6}{7}$

25. *Correct Answers:*

- $-\frac{9}{2}$

27. *Correct Answers:*

- 0

29. *Correct Answers:*

- DNE or NONE

## 4.5-SLOPEINTERCEPT\_FORM\_EXERCISES

1. *Correct Answers:*

- 6
- (0,3)

3. *Correct Answers:*

- -4
- (0,-5)

5. *Correct Answers:*

- 1
- (0,9)

7. *Correct Answers:*

- -1
- (0,-8)

9. *Correct Answers:*

- $-\frac{4}{5}$
- (0,9)

11. *Correct Answers:*

- $\frac{1}{6}$
- (0,6)

13. *Correct Answers:*

- 9
- (0,-9)

15. *Correct Answers:*

- -1
- (0,1)

37. *Correct Answers:*

- $y = 2x + 2$

39. *Correct Answers:*

- $y = -3x + 4$

41. *Correct Answers:*

- $y = \frac{7}{4}x + 4$

43. *Correct Answers:*

- $y = -\frac{9}{8}x - 4$

45. *Correct Answers:*

- $y = 2x + 10$

47. *Correct Answers:*

- $y = -4x - 6$

49. *Correct Answers:*

- $y = -x + 1$

51. *Correct Answers:*

- $y = \frac{8}{5}x + 9$

53. *Correct Answers:*

- $y = -\frac{1}{3}x + 10$

55. *Correct Answers:*

- 17

57. *Correct Answers:*

- 420

59. *Correct Answers:*

- 37

61. *Correct Answers:*

- $y = 0.065x + 14$
- \$23.10
- 490

63. *Correct Answers:*

- $y = 0.12x + 16.2$
- 19.32
- 59

65. *Correct Answers:*

- $y = 0.04x + 19$
- \$24.20
- 490

67. *Correct Answers:*

- $y = 0.21x + 13.1$
- 18.56
- 59

#### 4.6-POINT SLOPE FORM EXERCISES

1. Correct Answers:

- 2
- (5, 14)

3. Correct Answers:

- 3
- (-3, -7)

5. Correct Answers:

- $\frac{5}{3}$
- (-9, -11)

7. Correct Answers:

- $y = 5(x - 2) + 15$
- $y = 5(x - 1) + 10$

9. Correct Answers:

- $y = -5(x - 4) + 28$
- $y = -5(x - 3) + -7$

11. Correct Answers:

- $y = \frac{2}{3}(x - 3) + -12$
- $y = \frac{2}{3}(x - 9) + -16$

13. Correct Answers:

- $y = 3(x - 5) + 17$
- $y = 3x + 2$

15. Correct Answers:

- $y = -3(x - 2) + -4$
- $y = -3x + 2$

17. Correct Answers:

- $y = 1(x - 5) + 9$
- $y = 1x + 4$

19. Correct Answers:

- $y = -1(x - 3) + -1$
- $y = -1x + -4$

21. Correct Answers:

- $y = \frac{3}{5}(x - -10) + -2$
- $y = \frac{3}{5}x + 4$

23. Correct Answers:

- $y = -\frac{5}{8}(x - 24) + -20$
- $y = -\frac{5}{8}x + -5$

25. Correct Answers:

- $y = 5x - 4$

27. Correct Answers:

- $y = -2x + 2$

29. Correct Answers:

- $y = \frac{2}{3}x + 3$

31. Correct Answers:

- $y = -\frac{4}{7}x + 3$

33. Correct Answers:

- $y = 0.045x + 14$
- \$22.10
- 430

35. Correct Answers:

- $y = 0.28x + 16.6$
- 24.72
- 52

37. Correct Answers:

- $y = 0.03x + 11$
- \$16.10
- 430

39. Correct Answers:

- $y = 0.16x + 13.5$
- 18.14
- 52

## 4\_7-STANDARD\_FORM\_EXERCISES

1. *Correct Answers:*

- 8
- (0,9)

3. *Correct Answers:*

- -2
- (0,-3)

5. *Correct Answers:*

- $-\frac{1}{2}$
- (0,-5)

7. *Correct Answers:*

- $\frac{7}{4}$
- (0,-4)

9. *Correct Answers:*

- $\frac{4}{5}$
- (0,0)

11. *Correct Answers:*

- $-\frac{6}{5}$
- $(0, \frac{3}{10})$

23. *Correct Answers:*

- $2x - y = -5$

25. *Correct Answers:*

- $4x - 3y = 3$

27. *Correct Answers:*

- 0
- 5
- (0,5)
- 4
- 0
- (4,0)

29. *Correct Answers:*

- 0
- 24
- (0,24)
- -15
- 0
- (-15,0)

37. *Correct Answers:*

- D

39. *Correct Answers:*

- B

41. *Correct Answers:*

- C

#### 4\_8-HORIZONTAL\_VERTICAL\_PARALLEL\_AND\_PERPENDICULAR\_LINES\_EXERCISES

1. Correct Answers:

- 2
- $(-2, 2)$
- 2
- $(-1, 2)$
- 2
- $(0, 2)$
- 2
- $(1, 2)$
- 2
- $(2, 2)$

3. Correct Answers:

- -6
- $(-6, -2)$
- -6
- $(-6, -1)$
- -6
- $(-6, 0)$
- -6
- $(-6, 1)$
- -6
- $(-6, 2)$

5. Correct Answers:

- AB

7. Correct Answers:

- AC

9. Correct Answers:

- $y = -9$

11. Correct Answers:

- $x = -4$

13. Correct Answers:

- $y = 4$

15. Correct Answers:

- $x = 2$

17. Correct Answers:

- none
- none

- none
- 10
- 0
- $(10, 0)$

19. Correct Answers:

- 0
- -7
- $(0, -7)$
- none
- none
- none

25. Correct Answers:

- $y = -7$

27. Correct Answers:

- $x = 0$

29. Correct Answers:

- $y = 4x + 3$
- $y + 5 = 4(x + 2)$

31. Correct Answers:

- $y = -\frac{1}{2}x - 4$
- $y + 7 = -\frac{1}{2}(x - 6)$

33. Correct Answers:

- A

35. Correct Answers:

- B

37. Correct Answers:

- C

39. Correct Answers:

- A

41. Correct Answers:

- $y = x - 2$
- $y - 1 = x - 3$

43. Correct Answers:

- $y = \frac{9}{5}x + 2$
- $y + 25 = \frac{9}{5}(x + 15)$

## 5\_1-SOLVING\_SYSTEMS\_OF\_LINEAR\_EQUATIONS\_BY\_GRAPHING\_EXERCISES

1. *Correct Answers:*

- is not

3. *Correct Answers:*

- is not

5. *Correct Answers:*

- is

7. *Correct Answers:*

- $\{(-2, -1)\}$

9. *Correct Answers:*

- $\{(-1, -5)\}$

11. *Correct Answers:*

- $\{(2, -2)\}$

13. *Correct Answers:*

- $\{(1, -1)\}$

15. *Correct Answers:*

- $\{(2, -3)\}$

17. *Correct Answers:*

- *nosolution*

19. *Correct Answers:*

- *nosolution*

21. *Correct Answers:*

- $\{(x, y) \mid y = -\frac{3}{5}x + 7\}$

23. *Correct Answers:*

- one solution

25. *Correct Answers:*

- infinitely many solutions

27. *Correct Answers:*

- infinitely many solutions

29. *Correct Answers:*

- no solution

## 5.2-SUBSTITUTION EXERCISES

1. Correct Answers:

- $x = 0$  and  $y = 0$

3. Correct Answers:

- $x = -2$  and  $y = 0$

5. Correct Answers:

- $a = 0$  and  $B = 0$

7. Correct Answers:

- $B = 1$  and  $c = -7$

9. Correct Answers:

- $q = -7$  and  $a = 8$

11. Correct Answers:

- $x = 18$  and  $y = 0$

13. Correct Answers:

- $x = 5$  and  $y = 3$

15. Correct Answers:

- no solutions

17. Correct Answers:

- $r = -3$  and  $B = -5$

19. Correct Answers:

- $x = -\frac{4}{3}$  and  $y = -\frac{2}{15}$

21. Correct Answers:

- $x = -\frac{8}{11}$  and  $y = \frac{31}{11}$

23. Correct Answers:

- $B = -\frac{7}{13}$  and  $q = -\frac{9}{13}$

25. Correct Answers:

- $b = -\frac{1}{3}$  and  $q = \frac{100}{9}$

27. Correct Answers:

- $C = -\frac{49}{15}$  and  $n = -\frac{1}{3}$

29. Correct Answers:

- $x = -\frac{94}{25}$  and  $y = \frac{42}{25}$

31. Correct Answers:

- $x = -\frac{5}{14}$  and  $y = \frac{25}{28}$

33. Correct Answers:

- $x = -\frac{1}{5}$  and  $y = \frac{11}{10}$

35. Correct Answers:

- $(\frac{4}{11}, \frac{3}{4})$

37. Correct Answers:

- $(\frac{6}{5}, \frac{11}{8})$

39. Correct Answers:

- $(7, 0)$

41. Correct Answers:

- $(-10, 7)$

43. Correct Answers:

- $(-5, -8)$

45. Correct Answers:

- $(0, -2)$

47. Correct Answers:

- no solution

49. Correct Answers:

- infinite number of solutions

51. Correct Answers:

- 51
- 15

53. Correct Answers:

- 240

55. Correct Answers:

- 15
- 9

57. Correct Answers:

- \$8,000
- \$6,000

59. Correct Answers:

- 160
- 320

61. Correct Answers:

- \$2,000
- \$4,000

63. Correct Answers:

- \$5,000
- \$2,500

65. Correct Answers:

- \$8,000
- \$6,000

67. Correct Answers:

- 300

69. Correct Answers:

- 75

71. Correct Answers:

- 85

73. Correct Answers:

- 1200
- 2400



### 5\_3-ELIMINATION\_EXERCISES

1. *Correct Answers:*

- $(-10, -4)$

3. *Correct Answers:*

- $(-5, 2)$

5. *Correct Answers:*

- $(-1, 9)$

7. *Correct Answers:*

- $(4, -6)$

9. *Correct Answers:*

- no solution

11. *Correct Answers:*

- infinite number of solutions

13. *Correct Answers:*

- $a = 5$  and  $y = -7$

15. *Correct Answers:*

- $x = -\frac{17}{14}$  and  $y = -\frac{1}{14}$

17. *Correct Answers:*

- $x = -9$  and  $y = 0$

19. *Correct Answers:*

- $x = -\frac{8}{13}$  and  $r = \frac{6}{13}$

21. *Correct Answers:*

- $a = -\frac{12}{5}$  and  $q = \frac{14}{5}$

23. *Correct Answers:*

- $C = -\frac{98}{195}$  and  $n = \frac{64}{195}$

25. *Correct Answers:*

- $x = -\frac{18}{11}$  and  $y = -\frac{8}{11}$

27. *Correct Answers:*

- infinitely many solutions

29. *Correct Answers:*

- $(\frac{2}{7}, \frac{1}{2})$

31. *Correct Answers:*

- $(\frac{4}{11}, \frac{3}{4})$

33. *Correct Answers:*

- 20
- 9

35. *Correct Answers:*

- \$8,000
- \$5,000

37. *Correct Answers:*

- 400
- 400

39. *Correct Answers:*

- 53
- 137

41. *Correct Answers:*

- 14

43. *Correct Answers:*

- 1442
- 1958

## 6\_1-EXPONENT\_RULES\_AND\_SCIENTIFIC\_NOTATION\_EXERCISES

1. Correct Answers:

- $x^{13}$

3. Correct Answers:

- $t^{44}$

5. Correct Answers:

- $25r^{12}$

7. Correct Answers:

- $35r^{24}$

9. Correct Answers:

- $-\frac{y^{34}}{40}$

11. Correct Answers:

- $-128y^6$

13. Correct Answers:

- 1

15. Correct Answers:

- -1

17. Correct Answers:

- 2

19. Correct Answers:

- 50

21. Correct Answers:

- 1

23. Correct Answers:

- $\frac{x^{18}}{25}$

25. Correct Answers:

- $\frac{49}{4x^6}$

27. Correct Answers:

- $\frac{81x^{18}}{4}$

29. Correct Answers:

- $5t^{16}$

31. Correct Answers:

- $\frac{x^9}{2}$

33. Correct Answers:

- $r^7$

35. Correct Answers:

- $18^{11}$

37. Correct Answers:

- $\frac{x^4}{4y^6z^{16}}$

39. Correct Answers:

- $\frac{9x^6}{100y^8}$

41. Correct Answers:

- $14^3 \cdot 16^2$

43. Correct Answers:

- $6xy^5z^5$

45. Correct Answers:

- $3xy^2$

47. Correct Answers:

- 8

49. Correct Answers:

- $\frac{49}{64}$

51. Correct Answers:

- $-\frac{1}{6}$

53. Correct Answers:

- $\frac{y^7}{t^{17}}$

55. Correct Answers:

- $\frac{1}{r^{17}t^{15}}$

57. Correct Answers:

- $\frac{x^{11}}{4}$

59. Correct Answers:

- $\frac{1}{y^{12}}$

61. Correct Answers:

- $\frac{8}{r^{27}}$

63. Correct Answers:

- $\frac{9}{13t^{47}}$

65. Correct Answers:

- $\frac{1}{x^{46}}$

67. Correct Answers:

- $\frac{1}{y^{46}}$

69. Correct Answers:

- $\frac{1}{r^8}$

71. Correct Answers:

- $\frac{-36}{t^3}$

73. Correct Answers:

- $\frac{49}{64}$

75. Correct Answers:

- $-\frac{1}{27}$

77. Correct Answers:

- 25

79. Correct Answers:

- 45

81. Correct Answers:

- $\frac{1}{729}$

83. Correct Answers:

- $\frac{7}{10}$

85. Correct Answers:

- 16

87. Correct Answers:

- $-\frac{1}{216}$

89. Correct Answers:

- $\frac{27}{r^2}$

91. Correct Answers:

- $27t^{27}$

93. Correct Answers:

- $\frac{1}{x^{10}}$

95. Correct Answers:

- $\frac{1}{625y^{44}}$

97. Correct Answers:

- $\frac{r^{10}}{25}$

99. Correct Answers:

- $\frac{t^{22}}{16}$

101. Correct Answers:

- $\frac{32x^1}{9}$

103. Correct Answers:

- $y^6$

105. Correct Answers:

- $8r^3$

107. Correct Answers:

- $\frac{1}{r^{12}}$

109. Correct Answers:

- $\frac{1}{t^{40}}$

111. Correct Answers:

- $\frac{1}{x^6y^{10}}$

113. Correct Answers:

- $\frac{y^{16}}{t^{28}}$

115. Correct Answers:

- $\frac{16}{r^{56}}$

117. Correct Answers:

- $\frac{x^{18}}{t^{18}}$

119. Correct Answers:

- $\frac{r^{47}}{x^{41}}$

121. Correct Answers:

- $\frac{4y^8}{25x^{17}z^6}$

123. Correct Answers:

- $\frac{1}{x^{33}y^{42}z^{42}}$

125. Correct Answers:

- $7.6 \times 10^3$

127. Correct Answers:

- $9.5 \times 10^4$

129. Correct Answers:

- $2.6 \times 10^{-4}$

131. Correct Answers:

- $4.6 \times 10^{-4}$

133. Correct Answers:

- 66000

135. Correct Answers:

- 857000

137. Correct Answers:

- 1.56

139. Correct Answers:

- 0.0036

141. Correct Answers:

- 0.0555

143. Correct Answers:

- $2.8 \times 10^6$

145. Correct Answers:

- $5 \times 10^{-3}$

147. Correct Answers:

- $8 \times 10^0$

149. Correct Answers:

- $2 \times 10^7$

151. Correct Answers:

- $5 \times 10^8$

153. Correct Answers:

- $7 \times 10^{-8}$

155. Correct Answers:

- $9 \times 10^{-7}$

157. Correct Answers:

- $9 \times 10^8$

## 6\_2-ADDING\_AND\_SUBTRACTING\_POLYNOMIALS\_EXERCISES

1. *Correct Answers:*

- binomial
- 2

3. *Correct Answers:*

- monomial
- 0

5. *Correct Answers:*

- trinomial
- 10

7. *Correct Answers:*

- 7
- trinomial

9. *Correct Answers:*

- monomial
- 13

11. *Correct Answers:*

- 11

13. *Correct Answers:*

- $-12x + 2$

15. *Correct Answers:*

- $-11x^2 - 3x$

17. *Correct Answers:*

- $9x^2 + 16x - 1$

19. *Correct Answers:*

- $-6t^3 + t^2 - 15$

21. *Correct Answers:*

- $5x^6 + 3x^4 - 9x^2$

23. *Correct Answers:*

- $-0.1y^5 - 0.1y^4 - 0.4y^3 + 0.9y^2 + 0.1$

25. *Correct Answers:*

- $-8x^3 - 7x^2 + 4x + \frac{41}{8}$

27. *Correct Answers:*

- $-4x + 1$

29. *Correct Answers:*

- $-x^2 + 11x$

31. *Correct Answers:*

- $5x^5 - 10x^4 - 10x^3 + 6$

33. *Correct Answers:*

- $-5x^3 - 4x^2 - 5x + 18$

35. *Correct Answers:*

- $17x^2 + 15x + 1$

37. *Correct Answers:*

- $-8t^6 - 5t^4 + 8t^2$

39. *Correct Answers:*

- $12x^{18} - 11x^{16} + 14x^{15}$

41. *Correct Answers:*

- $26y^{19} + y^{17} + 13y^{15}$

43. *Correct Answers:*

- $17y^9 + y^8$

45. *Correct Answers:*

- $x^3y^6 + 11xy$

47. *Correct Answers:*

- $19x^8y^4 - xy + 2$

49. *Correct Answers:*

- $12x^8y^7 + 11x^2y^5 - xy$

51. *Correct Answers:*

- $-14x^4 + 5xy - 15y^5$

53. *Correct Answers:*

- $-15x^7y^8 + 16x^4y^4 + 6xy$

55. *Correct Answers:*

- $x^8 - 19y^6 - 3x^6y^6 - 2x^8y^6$

57. *Correct Answers:*

- $10x^7y^8 - 3xy$

59. *Correct Answers:*

- $3x^2 + 9.3x$

61. *Correct Answers:*

- $75x^2 + 8.5$

63. *Correct Answers:*

- $4x^3 + 9x^2 + 45x + 90$

65. *Correct Answers:*

- $6x^4 - 3x^3 + 9x^2 - 10$

### 6\_3-MULTIPLYING\_POLYNOMIALS\_EXERCISES

1. Correct Answers:

- $6x^2 - 36x$

3. Correct Answers:

- $6x^2 + 12x$

5. Correct Answers:

- $-5x^3 - 20x^2$

7. Correct Answers:

- $-30y^4 - 45y^3$

9. Correct Answers:

- $-80r^4 - 72r^3 - 48r^2$

11. Correct Answers:

- $60x^{26}y^8 - 50x^{13}y^{22}$

13. Correct Answers:

- $-12a^{23}b^{18} - 15a^{35}b^9$

15. Correct Answers:

- $-15a^{15} + 20a^{13}b^3 + 50a^9b^5$

17. Correct Answers:

- $5w^2 - 6w$

19. Correct Answers:

- $b^2 + 4b$

21. Correct Answers:

- $h^2 + 6h$

23. Correct Answers:

- $x^2 + 14x + 45$

25. Correct Answers:

- $3y^2 + 19y + 20$

27. Correct Answers:

- $r^2 - 4r - 45$

29. Correct Answers:

- $t^2 - 4t + 3$

31. Correct Answers:

- $10x^2 + 49x + 18$

33. Correct Answers:

- $6y^2 - 38y + 40$

35. Correct Answers:

- $8r^2 - 38r + 24$

37. Correct Answers:

- $2t^2 - 3t - 14$

39. Correct Answers:

- $12x^3 - 36x^2 - 3x + 9$

41. Correct Answers:

- $7x^5 + 7x^3 + 10x^2 + 10$

43. Correct Answers:

- $18y^4 - 12y^2 + 2$

45. Correct Answers:

- $2r^2 + 24r + 54$

47. Correct Answers:

- $t^3 - t$

49. Correct Answers:

- $12x^2 + 52x + 48$

51. Correct Answers:

- $a^2 - 8ab + 15b^2$

53. Correct Answers:

- $7a^2 + 43ab + 40b^2$

55. Correct Answers:

- $72a^2 + 9ab - 81b^2$

57. Correct Answers:

- $4a^2b^2 + 30ab + 56$

59. Correct Answers:

- $x^2 - 10x + 24$

61. Correct Answers:

- $-21x^2 + 292x + 1820$

63. Correct Answers:

- $4x^3 + 18x^2 - 4$

65. Correct Answers:

- $15x^4 - 2x^3 - 28x^2 + 41x - 20$

67. Correct Answers:

- $x^4 + 6x^3 + 16x^2 + 22x + 15$

69. Correct Answers:

- $a^3 - 3a^2b - 21ab^2 + 28b^3$

71. Correct Answers:

- $a^2 + 2ab + b^2 - 36$

## 6.4-SPECIAL\_CASES\_OF\_MULTIPLYING\_POLYNOMIALS\_EXERCISES

1. Correct Answers:

- False
- False
- True

3. Correct Answers:

- $y^2 + 16y + 64$

5. Correct Answers:

- $4r^2 + 12r + 9$

7. Correct Answers:

- $t^2 - 14t + 49$

9. Correct Answers:

- $49t^2 - 28t + 4$

11. Correct Answers:

- $100x^4 - 60x^2 + 9$

13. Correct Answers:

- $y^{14} - 12y^7 + 36$

15. Correct Answers:

- $49a^2 - 98ab + 49b^2$

17. Correct Answers:

- $81a^2b^2 - 162ab + 81$

19. Correct Answers:

- $x^4 - 4x^2y^2 + 4y^4$

21. Correct Answers:

- $y^2 - 121$

23. Correct Answers:

- $25r^2 - 25$

25. Correct Answers:

- $4 - 49t^2$

27. Correct Answers:

- $t^{12} - 9$

29. Correct Answers:

- $25x^{14} - 49$

31. Correct Answers:

- $1 - 16y^6$

33. Correct Answers:

- $49x^2 - 16y^2$

35. Correct Answers:

- $a^2b^2 - 81$

37. Correct Answers:

- $x^4 - 4y^4$

39. Correct Answers:

- $16x^{14} - 16y^4$

41. Correct Answers:

- $36x^6y^4 - 36y^{16}$

43. Correct Answers:

- Choice 2

45. Correct Answers:

- Choice 2

47. Correct Answers:

- Choice 4

49. Correct Answers:

- Choice 3

51. Correct Answers:

- $h^3 - 6h^2 - 27h$

53. Correct Answers:

- $t^3 + 9t^2 + 27t + 27$

55. Correct Answers:

- $x^3 - 15x^2 + 75x - 125$

57. Correct Answers:

- $216y^3 + 540y^2 + 450y + 125$

59. Correct Answers:

- $27r^3 - 135r^2 + 225r - 125$

## 6.5-DIVIDING\_BY\_A\_MONOMIAL\_EXERCISES

1. *Correct Answers:*

- $-7t^{20} - 2t^{15}$

3. *Correct Answers:*

- $x^{16} + 9x^9 + 10x^8$

5. *Correct Answers:*

- $9y^{15} - 5y^{11}$

7. *Correct Answers:*

- $-9r^{13} - 4r^{11} + 12r^8 + 5r^5$

9. *Correct Answers:*

- $7xy - 1 - 5y$

11. *Correct Answers:*

- $13x^{16}y^{16} + 7x^{11}y^{10} - 9x^{10}y^{14}$

13. *Correct Answers:*

- $-12x^{20} - x^4 + 10x^3$

15. *Correct Answers:*

- $5x^2 + 9x - 6$

17. *Correct Answers:*

- $8x^4 + 7x - 6$

## 7\_1-FACTORIZING\_OUT\_THE\_COMMON\_FACTOR\_EXERCISES

1. *Correct Answers:*

- 4 or  $-4$

3. *Correct Answers:*

- $7y$  or  $-7y$

5. *Correct Answers:*

- $10r^3$  or  $-10r^3$

7. *Correct Answers:*

- $3r^{12}$  or  $-3r^{12}$

9. *Correct Answers:*

- $6t^4$  or  $-6t^4$

11. *Correct Answers:*

- $3x^9y^6$  or  $-3x^9y^6$

13. *Correct Answers:*

- $3(y+1)$

15. *Correct Answers:*

- $5(r-1)$

17. *Correct Answers:*

- $-8(t+1)$

19. *Correct Answers:*

- $2(x+9)$

21. *Correct Answers:*

- $4(3y^2 - 8)$

23. *Correct Answers:*

- $7(5r^2 + r + 1)$

25. *Correct Answers:*

- $5r^2(3r^2 - 3r + 5)$

27. *Correct Answers:*

- $3t^3(4t^2 - 7t + 4)$

29. *Correct Answers:*

- $10x(5 + 2x + 6x^2)$

31. *Correct Answers:*

- prime

33. *Correct Answers:*

- $7y(x+1)$

35. *Correct Answers:*

- $9y^3(x^7 + 6)$

37. *Correct Answers:*

- $2x^3y^5(9x^2 - 5x + 8)$

39. *Correct Answers:*

- $4x^3y^2z^4(3x^2z^2 - 8xz + 10)$



## 7\_2-FACTORIZING\_BY\_GROUPING\_EXERCISES

1. *Correct Answers:*

- $(t-5)(t+10)$

3. *Correct Answers:*

- $(x-2)(y+2)$

5. *Correct Answers:*

- $(4x+9)(x+y)$

7. *Correct Answers:*

- $(4r^6+1)(8r+9)$

9. *Correct Answers:*

- $9r^2(r+12)(6r^2+2r+5)$

11. *Correct Answers:*

- $(t+3)(t-9)$

13. *Correct Answers:*

- $(x+7)(x-3)$

15. *Correct Answers:*

- $(y^2+2)(y-6)$

17. *Correct Answers:*

- $(r^2+6)(r+8)$

19. *Correct Answers:*

- $(x+8)(y-9)$

21. *Correct Answers:*

- $(x-7)(y-2)$

23. *Correct Answers:*

- $(4x+9y)(x-4y)$

25. *Correct Answers:*

- $(6x+7y)(x-10y)$

27. *Correct Answers:*

- $(x^3+2)(1+7y)$

29. *Correct Answers:*

- $(x^3+10)(1+6y)$

31. *Correct Answers:*

- $6x^2(x+3)(5x^2+3x+2)$

7\_3-FACTORING\_TRINOMIALS\_WITH\_LEADING\_COEFFICIENT\_ONE\_EXERCISES

1. Correct Answers:

- $(r+6)(r+5)$

3. Correct Answers:

- $(t+9)(t+3)$

5. Correct Answers:

- $(x-2)(x+5)$

7. Correct Answers:

- $(y+5)(y-9)$

9. Correct Answers:

- $(y-8)(y-4)$

11. Correct Answers:

- $(r-1)(r-7)$

13. Correct Answers:

- $(t+4)(t+5)$

15. Correct Answers:

- $(x+7)(x+3)$

17. Correct Answers:

- $(y-10)(y+2)$

19. Correct Answers:

- $(r+3)(r-6)$

21. Correct Answers:

- $(t-6)(t-8)$

23. Correct Answers:

- $(x-9)(x-7)$

25. Correct Answers:

- prime

27. Correct Answers:

- prime

29. Correct Answers:

- $(r+10)(r+10)$

31. Correct Answers:

- $(t+2)(t+2)$

33. Correct Answers:

- $(x-5)(x-5)$

35. Correct Answers:

- $(y-9)(y-9)$

37. Correct Answers:

- $5(r-1)(r+1)$

39. Correct Answers:

- $2(t-4)(t+3)$

41. Correct Answers:

- $2(x-6)(x-2)$

43. Correct Answers:

- $3(y-1)(y-5)$

45. Correct Answers:

- $3y^7(y+3)(y+2)$

47. Correct Answers:

- $2r^5(r+2)(r+1)$

49. Correct Answers:

- $2t^5(t-7)(t+3)$

51. Correct Answers:

- $3x^2(x+7)(x-1)$

53. Correct Answers:

- $2y^2(y-3)(y-5)$

55. Correct Answers:

- $7r^7(r-3)(r-1)$

57. Correct Answers:

- $-(t+1)(t-1)$

59. Correct Answers:

- $-(x+4)(x-5)$

61. Correct Answers:

- $(x+8r)(x+3r)$

63. Correct Answers:

- $(y-3t)(y+7t)$

65. Correct Answers:

- $(r-9y)(r-2y)$

67. Correct Answers:

- $(t+12r)(t+12r)$

69. Correct Answers:

- $(x-10t)(x-10t)$

71. Correct Answers:

- $2(y+1)(y+3)$

73. Correct Answers:

- $3y(x+2)(x+3)$

75. Correct Answers:

- $2b(a-2)(a+3)$

77. Correct Answers:

- $6y(x-2)(x-1)$

79. Correct Answers:

- $5xy(x+1)(x+4)$

81. Correct Answers:

- $x^2(y-4z)(y+5z)$

83. Correct Answers:

- $(a+b)(r+1)(r+7)$

85. Correct Answers:

- $(t+0.4)(t+0.5)$

87. Correct Answers:

- $(xr+3)(xr+8)$

89. Correct Answers:

- $(yt-2)(yt+4)$

91. Correct Answers:

- $(rx-1)(rx-4)$

93. Correct Answers:

- $2(tr+3)(tr+1)$

95. Correct Answers:

- $2(xt+1)(xt-7)$

97. *Correct Answers:*

|

- $3y(xy - 1)(xy - 6)$

## 7\_4-FACTORIZING\_TRINOMIALS\_WITH\_A\_NONTRIVIAL\_LEADING\_COEFFICIENT\_EXERCISES

1. *Correct Answers:*

- $(3y+4)(y+2)$

3. *Correct Answers:*

- $(5r+2)(r-2)$

5. *Correct Answers:*

- $(2t-1)(t-8)$

7. *Correct Answers:*

- prime

9. *Correct Answers:*

- $(6y+7)(y+2)$

11. *Correct Answers:*

- $(4r+5)(r-1)$

13. *Correct Answers:*

- $(4t-3)(t-5)$

15. *Correct Answers:*

- $(2x+1)(4x+7)$

17. *Correct Answers:*

- $(5x+4)(4x-3)$

19. *Correct Answers:*

- $(5y-1)(4y-3)$

21. *Correct Answers:*

- $5(5r+2)(r+1)$

23. *Correct Answers:*

- $10(2t-1)(t+2)$

25. *Correct Answers:*

- $2(2x-7)(x-1)$

27. *Correct Answers:*

- $3y^6(5y+3)(y+1)$

29. *Correct Answers:*

- $2r^3(2r-5)(r+1)$

31. *Correct Answers:*

- $3t^6(3t-2)(t-1)$

33. *Correct Answers:*

- $(3ty+2)(ty+2)$

35. *Correct Answers:*

- $(2xr-5)(xr+2)$

37. *Correct Answers:*

- $(2yt-3)(yt-7)$

39. *Correct Answers:*

- $(2r+x)(r+8x)$

41. *Correct Answers:*

- $(5t+4r)(t-4r)$

43. *Correct Answers:*

- $(5x-3t)(x-4t)$

45. *Correct Answers:*

- $(4y+5x)(y+x)$

47. *Correct Answers:*

- $(4r+3y)(r-5y)$

49. *Correct Answers:*

- $(4t-3y)(t-4y)$

51. *Correct Answers:*

- $(2t+3x)(4t+x)$

53. *Correct Answers:*

- $(5x+y)(5x-6y)$

55. *Correct Answers:*

- $(3y-r)(4y-5r)$

57. *Correct Answers:*

- $5(2rt+1)(rt+2)$

59. *Correct Answers:*

- $5(3ty-1)(ty+2)$

61. *Correct Answers:*

- $2x^6(2xr-1)(xr-4)$

63. *Correct Answers:*

- $2(2x+y)(x+7y)$

65. *Correct Answers:*

- $3(3a+4b)(a-b)$

67. *Correct Answers:*

- $2(2x-y)(x-4y)$

69. *Correct Answers:*

- $2y(2x+y)(x+5y)$

71. *Correct Answers:*

- $2(y-3)(2x+1)(x+5)$

73. *Correct Answers:*

- $3(y+2)(2x+1)(x+1)$

75. *Correct Answers:*

- $(3x+8)(x+2)$

- $(3y+32)(y+10)$

## 7.5-FACTORING\_SPECIAL\_POLYNOMIALS\_EXERCISES

1. Correct Answers:

- $(y+4)(y-4)$

3. Correct Answers:

- $(8r+11)(8r-11)$

5. Correct Answers:

- $(tr+11)(tr-11)$

7. Correct Answers:

- $(4xr+1)(4xr-1)$

9. Correct Answers:

- $(5+y)(5-y)$

11. Correct Answers:

- $(3+10r)(3-10r)$

13. Correct Answers:

- $(t^2+3)(t^2-3)$

15. Correct Answers:

- $(6t^2+11)(6t^2-11)$

17. Correct Answers:

- $(x^6+10)(x^6-10)$

19. Correct Answers:

- $(6x^2+y^2)(6x^2-y^2)$

21. Correct Answers:

- $(x^5+8y^6)(x^5-8y^6)$

23. Correct Answers:

- $(t+8)(t+8)$

25. Correct Answers:

- $(x-12)(x-12)$

27. Correct Answers:

- $(4y+1)(4y+1)$

29. Correct Answers:

- $(8r-1)(8r-1)$

31. Correct Answers:

- $(8rt-1)(8rt-1)$

33. Correct Answers:

- $(t+5x)(t+5x)$

35. Correct Answers:

- $(x-3y)(x-3y)$

37. Correct Answers:

- $(2y+9t)(2y+9t)$

39. Correct Answers:

- $(8r-3x)(8r-3x)$

41. Correct Answers:

- $(t+6)(t^2-6t+36)$

43. Correct Answers:

- $(x-9)(x^2+9x+81)$

45. Correct Answers:

- $(10y+1)(100y^2-10y+1)$

47. Correct Answers:

- $(4r-1)(16r^2+4r+1)$

49. Correct Answers:

- $(7r+2)(49r^2-14r+4)$

51. Correct Answers:

- $(10t-7)(100t^2+70t+49)$

53. Correct Answers:

- $(xy+3)(x^2y^2-3xy+9)$

55. Correct Answers:

- $(x-6y)(x^2+6xy+36y^2)$

57. Correct Answers:

- $(3r-2)(3r+2)(9r^2+4)$

59. Correct Answers:

- $4(t+2)(t-2)$

61. Correct Answers:

- $2x(x+6)(x-6)$

63. Correct Answers:

- $8y^2r^2(yr+1)(yr-1)$

65. Correct Answers:

- $10(1+r)(1-r)$

67. Correct Answers:

- $7(3r+1)(3r+1)$

69. Correct Answers:

- $2(6tr+1)(6tr+1)$

71. Correct Answers:

- $10(2x-1)(2x-1)$

73. Correct Answers:

- $y^2(4y+1)(4y+1)$

75. Correct Answers:

- $r^8(8r-1)(8r-1)$

77. Correct Answers:

- $7t^5(3t+1)(3t+1)$

79. Correct Answers:

- $7x^4(3x-1)(3x-1)$

81. Correct Answers:

- $y(6y+5)(36y^2-30y+25)$

83. Correct Answers:

- $(6x+7y)(36x^2-42xy+49y^2)$

85. Correct Answers:

- $6(r-1)(r+1)(r^2+1)$

87. Correct Answers:

- $t^8(t+6)(t^2-6t+36)$

89. Correct Answers:

- prime

91. Correct Answers:

- $12y(y^2+1)$

93. Correct Answers:

- $r(0.3+r)(0.3-r)$

95. Correct Answers:

- $(t-2)(t+6)$

97. *Correct Answers:*

|

•  $(x-9-11y)(x-9+11y)$

## 7\_6-FACTORIZING\_STRATEGIES\_EXERCISES

1. Correct Answers:

- AF

3. Correct Answers:

- AC

5. Correct Answers:

- AB

7. Correct Answers:

- I

9. Correct Answers:

- G

11. Correct Answers:

- F

13. Correct Answers:

- AE

15. Correct Answers:

- $5(t+1)$

17. Correct Answers:

- $7(5x^2 - 7)$

19. Correct Answers:

- $8y(4 - 2y + 7y^2)$

21. Correct Answers:

- $10x^3y^8(4x^2 - 5x + 6)$

23. Correct Answers:

- $(x+2)(y+8)$

25. Correct Answers:

- $(t+9)(t-2)$

27. Correct Answers:

- $(3xt - 4)(xt + 3)$

29. Correct Answers:

- $(6y+1)(y-5)$

31. Correct Answers:

- $(5r-3)(5r-1)$

33. Correct Answers:

- $(2t-x)(t-6x)$

35. Correct Answers:

- $(2x+y)(3x+8y)$

37. Correct Answers:

- $2(5y-4)(y+3)$

39. Correct Answers:

- $2y^2(2y+3)(y+2)$

41. Correct Answers:

- $8(2x+y)(x+y)$

43. Correct Answers:

- $6(y+3)(3x+2)(x+1)$

45. Correct Answers:

- $(x-10)(x-3)$

47. Correct Answers:

- $(yx-1)(yx+3)$

49. Correct Answers:

- $2(rt+2)(rt+6)$

51. Correct Answers:

- $2t^7(t+3)(t+2)$

53. Correct Answers:

- $7y(x+1)(x+2)$

55. Correct Answers:

- $3y(xy-1)(xy-6)$

57. Correct Answers:

- $(y+0.7)(y+0.4)$

59. Correct Answers:

- $(rx+2)(rx-2)$

61. Correct Answers:

- $(t^2+5)(t^2-5)$

63. Correct Answers:

- $(x^6+3y^7)(x^6-3y^7)$

65. Correct Answers:

- $2y(y+1)(y-1)$

67. Correct Answers:

- $6(4+r)(4-r)$

69. Correct Answers:

- $(t-4r)(t-4r)$

71. Correct Answers:

- $(11x-1)(11x-1)$

73. Correct Answers:

- $(11x+4t)(11x+4t)$

75. Correct Answers:

- $y^7(7y+1)(7y+1)$

77. Correct Answers:

- $(r+10)(r^2-10r+100)$

79. Correct Answers:

- $(2t+5)(4t^2-10t+25)$

81. Correct Answers:

- $x(5x+4)(25x^2-20x+16)$

83. Correct Answers:

- $2(y-3)(y+3)(y^2+9)$

## 8\_1-SOLVING\_QUADRATIC\_EQUATIONS\_BY\_FACTORIZING\_EXERCISES

1. *Correct Answers:*

- $x = -5$  or  $x = -4$

3. *Correct Answers:*

- $x = -9$  or  $x = \frac{7}{20}$

5. *Correct Answers:*

- $x = -2$  or  $x = -3$

7. *Correct Answers:*

- $x = 3$  or  $x = -6$

9. *Correct Answers:*

- $x = 5$  or  $x = 2$

11. *Correct Answers:*

- $x = -8$  or  $x = -2$

13. *Correct Answers:*

- $x = 10$  or  $x = -5$

15. *Correct Answers:*

- $x = 8$  or  $x = 3$

17. *Correct Answers:*

- $x = 0$  or  $x = 1$

19. *Correct Answers:*

- $x = 0$  or  $x = 2$

21. *Correct Answers:*

- $x = 0$  or  $x = \frac{1}{10}$

23. *Correct Answers:*

- $x = 2$

25. *Correct Answers:*

- $x = 5$

27. *Correct Answers:*

- $x = -\frac{1}{4}$

29. *Correct Answers:*

- $x = -\frac{12}{5}$  or  $x = -2$

31. *Correct Answers:*

- $x = 10$  or  $x = -10$

33. *Correct Answers:*

- $x = -\frac{7}{4}$  or  $x = \frac{7}{4}$

35. *Correct Answers:*

- $x = -\frac{11}{6}$  or  $x = \frac{11}{6}$

37. *Correct Answers:*

- $x = -4$  or  $x = 2$

39. *Correct Answers:*

- $x = \frac{1}{5}$  or  $x = -10$

41. *Correct Answers:*

- $x = 3$  or  $x = -1$

43. *Correct Answers:*

- $x = -3$  or  $x = 4$

45. *Correct Answers:*

- $x = -1$

47. *Correct Answers:*

- $x = -\frac{9}{8}$

49. *Correct Answers:*

- $x = -10$  or  $x = -4$  or  $x = -9$

51. *Correct Answers:*

- $x = -3$  or  $x = 3$  or  $x = 0$

53. *Correct Answers:*

- $x = 0$  or  $x = 1$  or  $x = -2$

55. *Correct Answers:*

- 6,9

57. *Correct Answers:*

- 9 cm
- 14 cm

59. *Correct Answers:*

- 2 in
- 1 in

61. *Correct Answers:*

- 2 ft



## 8\_2-SQUARE\_ROOT\_PROPERTIES\_EXERCISES

1. Correct Answers:

- BEF

3. Correct Answers:

- 4
- 9
- 2

5. Correct Answers:

- $\frac{7}{12}$
- DNE

7. Correct Answers:

- 10
- 1
- 100

9. Correct Answers:

- 12
- 120
- 1200

11. Correct Answers:

- 3
- 0.3
- 0.03

13. Correct Answers:

- 6.93

15. Correct Answers:

- $\frac{8}{9}$

17. Correct Answers:

- -11

19. Correct Answers:

- not a real number

21. Correct Answers:

- not a real number or 0.8i

23. Correct Answers:

- $-\frac{6}{7}$

25. Correct Answers:

- 5

27. Correct Answers:

- $\frac{1}{6}$

29. Correct Answers:

- $5\sqrt{3}$

31. Correct Answers:

- $15\sqrt{5}$

33. Correct Answers:

- $\sqrt{231}$

35. Correct Answers:

- 1
- 5

37. Correct Answers:

- $16\sqrt{14}$

39. Correct Answers:

- $24\sqrt{3}$

41. Correct Answers:

- $180\sqrt{2}$

43. Correct Answers:

- 72

45. Correct Answers:

- $\frac{\sqrt{3}}{10}$

47. Correct Answers:

- $\frac{2\sqrt{3}}{13}$

49. Correct Answers:

- $-\sqrt{11}$

51. Correct Answers:

- $8\sqrt{23}$

53. Correct Answers:

- $9\sqrt{7}$

55. Correct Answers:

- $7\sqrt{2} + 9\sqrt{3}$

57. Correct Answers:

- $2\sqrt{3}$

59. Correct Answers:

- $3\sqrt{5} - 8\sqrt{2}$

61. Correct Answers:

- $\frac{7}{6}$

63. Correct Answers:

- $\frac{\sqrt{10}}{10}$

65. Correct Answers:

- $\frac{10\sqrt{3}}{3}$

67. Correct Answers:

- $\frac{9\sqrt{5}}{25}$

69. Correct Answers:

- $\frac{5\sqrt{21}}{7}$

71. Correct Answers:

- $\sqrt{10}$

73. Correct Answers:

- $\frac{\sqrt{3}}{6}$

75. Correct Answers:

- $\frac{3\sqrt{5}}{10}$

77. Correct Answers:

- $\frac{\sqrt{11}}{6}$

79. Correct Answers:

- $\frac{9\sqrt{2}}{2}$

81. Correct Answers:

- $\frac{\sqrt{165}}{11}$

83. Correct Answers:

- $\frac{2\sqrt{77}}{11}$

85. Correct Answers:

- $\sqrt{6} + \sqrt{10}$

**87.** *Correct Answers:*

- $10\sqrt{11} + 35$

**89.** *Correct Answers:*

- $80 - 50\sqrt{7}$

**91.** *Correct Answers:*

- $3 + 2\sqrt{2}$

**93.** *Correct Answers:*

- $12 - 6\sqrt{3}$

**95.** *Correct Answers:*

- $20 - 10\sqrt{3}$

**97.** *Correct Answers:*

- $163 - 60\sqrt{7}$

**99.** *Correct Answers:*

- 12

**101.** *Correct Answers:*

- -6

**103.** *Correct Answers:*

- -182

### 8\_3-SOLVING\_QUADRATIC\_EQUATIONS\_BY\_USING\_A\_SQUARE\_ROOT\_EXERCISES

1. *Correct Answers:*

- $x = 11$  or  $x = -11$

3. *Correct Answers:*

- $x = -\frac{1}{2}$  or  $x = \frac{1}{2}$

5. *Correct Answers:*

- $x = 2\sqrt{3}$  or  $x = -2\sqrt{3}$

7. *Correct Answers:*

- $x = \sqrt{29}$  or  $x = -\sqrt{29}$

9. *Correct Answers:*

- $x = 4$  or  $x = -4$

11. *Correct Answers:*

- $x = -\frac{3}{8}$  or  $x = \frac{3}{8}$

13. *Correct Answers:*

- $x = -\frac{6}{7}$  or  $x = \frac{6}{7}$

15. *Correct Answers:*

- $x = \frac{\sqrt{779}}{41}$  or  $x = -\frac{\sqrt{779}}{41}$

17. *Correct Answers:*

- $r = -\frac{\sqrt{14}}{7}$  or  $r = \frac{\sqrt{14}}{7}$

19. *Correct Answers:*

- no real solutions

21. *Correct Answers:*

- $x = 17$  or  $x = 1$

23. *Correct Answers:*

- $x = -\frac{15}{8}$  or  $x = \frac{7}{8}$

25. *Correct Answers:*

- $y = 9$  or  $y = 5$

27. *Correct Answers:*

- $x = 4 + \sqrt{43}$  or  $x = 4 - \sqrt{43}$

29. *Correct Answers:*

- $t = -1 + 7\sqrt{2}$  or  $t = -1 - 7\sqrt{2}$

31. *Correct Answers:*

- $x = -10 + 2\sqrt{7}$  or  $x = -10 - 2\sqrt{7}$

33. *Correct Answers:*

- 26

35. *Correct Answers:*

- 24

37. *Correct Answers:*

- 17.7482

39. *Correct Answers:*

- $4\sqrt{5}$

41. *Correct Answers:*

- $2\sqrt{17}$

43. *Correct Answers:*

- 40.5

- 21.6

45. *Correct Answers:*

- 8.5

- 4

## 8\_4-THE\_QUADRATIC\_FORMULA\_EXERCISES

1. *Correct Answers:*

- $x = \frac{7-3\sqrt{5}}{2}$  or  $x = \frac{7+3\sqrt{5}}{2}$

3. *Correct Answers:*

- $x = \frac{3}{2}$  or  $x = -\frac{2}{3}$

5. *Correct Answers:*

- $x = \frac{7-\sqrt{17}}{2}$  or  $x = \frac{7+\sqrt{17}}{2}$

7. *Correct Answers:*

- $x = \frac{-1-3\sqrt{5}}{2}$  or  $x = \frac{-1+3\sqrt{5}}{2}$

9. *Correct Answers:*

- $x = \frac{3-\sqrt{17}}{4}$  or  $x = \frac{3+\sqrt{17}}{4}$

11. *Correct Answers:*

- $x = \frac{-2-3\sqrt{2}}{7}$  or  $x = \frac{-2+3\sqrt{2}}{7}$

13. *Correct Answers:*

- no real solutions

15. *Correct Answers:*

- $x = 3$  or  $x = -3$

17. *Correct Answers:*

- $\{9\}$

19. *Correct Answers:*

- $x = -\frac{4}{7}$  or  $x = \frac{4}{7}$

21. *Correct Answers:*

- $y = -\frac{\sqrt{6}}{2}$  or  $y = \frac{\sqrt{6}}{2}$

23. *Correct Answers:*

- $x = 0$  or  $x = 4$

25. *Correct Answers:*

- $\{0\}$

27. *Correct Answers:*

- $x = -9$  or  $x = 2$

29. *Correct Answers:*

- $x = 13$  or  $x = 1$

31. *Correct Answers:*

- $x = \frac{-7-\sqrt{13}}{2}$  or  $x = \frac{-7+\sqrt{13}}{2}$

33. *Correct Answers:*

- $x = \frac{3-\sqrt{17}}{4}$  or  $x = \frac{3+\sqrt{17}}{4}$

35. *Correct Answers:*

- $t = 3$  or  $t = 1$

37. *Correct Answers:*

- $\{-4\}$

39. *Correct Answers:*

- $-7, 10$

41. *Correct Answers:*

- $-0.7, 5.2$

43. *Correct Answers:*

- 8 cm
- 15 cm

45. *Correct Answers:*

- 5 in
- 21 in

47. *Correct Answers:*

- 110
- 200
- 100
- 220

49. *Correct Answers:*

- 2 ft

51. *Correct Answers:*

- 2.51865

53. *Correct Answers:*

- 0.875038
- 9.32904

55. *Correct Answers:*

- \$105.00
- \$285.00

## 8\_5-COMPLEX\_SOLUTIONS\_TO\_QUADRATIC\_EQUATIONS\_EXERCISES

1. *Correct Answers:*

- $i\sqrt{30}$

3. *Correct Answers:*

- $3i\sqrt{6}$

5. *Correct Answers:*

- $2i\sqrt{42}$

7. *Correct Answers:*

- $t = 7i$  or  $t = -7i$

9. *Correct Answers:*

- $x = 10i$  or  $x = -10i$

11. *Correct Answers:*

- $y = i\sqrt{2}$  or  $y = -i\sqrt{2}$

13. *Correct Answers:*

- $r = 3i\sqrt{7}$  or  $r = -3i\sqrt{7}$

15. *Correct Answers:*

- $t = -8 + 9i$  or  $t = -8 - 9i$

17. *Correct Answers:*

- $x = 1 + 2i$  or  $x = 1 - 2i$

19. *Correct Answers:*

- $x = -5 + i\sqrt{3}$  or  $x = -5 - i\sqrt{3}$

## 9\_1-INTRODUCTION\_TO\_FUNCTIONS\_EXERCISES

1. *Correct Answers:*
- does not describe
  - $\{-8, -6, -2, 9\}$
  - $\{3, 5, 8\}$
3. *Correct Answers:*
- describes
  - $\{-2, 4\}$
  - $\{4, 8\}$
  - describes
  - $\{-8, -6, 5\}$
  - $\{7, 9, 10\}$
  - does not describe
  - $\{-9, 5, 10\}$
  - $\{2, 3, 6\}$
  - describes
  - $\{-6, -1, 0, 7, 8\}$
  - $\{2, 3, 5, 10\}$
5. *Correct Answers:*
- does
  - does not
7. *Correct Answers:*
- does
  - does not
11. *Correct Answers:*
- 9
  - 4
  - 6
13. *Correct Answers:*
- 27
  - -36
  - 0
15. *Correct Answers:*
- -15
  - 15
  - 5
17. *Correct Answers:*
- 3
  - 9
  - 5
19. *Correct Answers:*
- 7
  - -5
  - -9
21. *Correct Answers:*
- 8
  - 0
  - 9
23. *Correct Answers:*
- 5
  - 5
  - 5
25. *Correct Answers:*

- $\frac{14}{9}$
  - $\frac{7}{12}$
27. *Correct Answers:*
- -10
  - undefined
29. *Correct Answers:*
- 12
  - 12
31. *Correct Answers:*
- -18
  - -2
33. *Correct Answers:*
- 10
  - $\frac{10}{9}$
  - undefined
35. *Correct Answers:*
- -4
  - $\frac{4}{3}$
37. *Correct Answers:*
- -2
  - $-\frac{3}{4}$
39. *Correct Answers:*
- 3, -3
  - no real solutions
41. *Correct Answers:*
- 7, 5
43. *Correct Answers:*
- $\{-7, -3, 0\}$
  - $\{-8, -1\}$
45. *Correct Answers:*
- $(-\infty, \infty)$
  - $[-2, \infty)$
47. *Correct Answers:*
- 5
  - $x = 3, x = (-3)$
49. *Correct Answers:*
- -1
  - $x = 1$
51. *Correct Answers:*
- -1
  - $x = 0, x = 2$
53. *Correct Answers:*
- (10, 7)
  - -1
55. *Correct Answers:*
- (y, x)
57. *Correct Answers:*
- t
59. *Correct Answers:*
- $\frac{x}{5280}$

- 2.27273
- 12000

**61.** *Correct Answers:*

- D

**63.** *Correct Answers:*

- D

**65.** *Correct Answers:*

- B

**67.** *Correct Answers:*

- D

**69.** *Correct Answers:*

- 4
- D
- 2,8
- C

**71.** *Correct Answers:*

- 98
- D
- 4,8
- D

## 9\_2-PROPERTIES\_OF\_QUADRATIC\_FUNCTIONS\_EXERCISES

1. *Correct Answers:*

- $x = 2$
- $(2, -17)$

3. *Correct Answers:*

- $x = -2$
- $(-2, 17)$

5. *Correct Answers:*

- $x = 2$
- $(2, 9)$

7. *Correct Answers:*

- $x = -5$
- $(-5, 75)$

9. *Correct Answers:*

- $x = 0$
- $(0, 1)$

11. *Correct Answers:*

- $x = -\frac{5}{2}$
- $\left(-\frac{5}{2}, -\frac{121}{4}\right)$

13. *Correct Answers:*

- $x = 2.5$
- $(2.5, 24)$

15. *Correct Answers:*

- $x = 0$
- $(-0, 0)$

17. *Correct Answers:*

- $x = 0$

- $(0, -4)$

19. *Correct Answers:*

- $x = -5$
- $(-5, -4)$

29. *Correct Answers:*

- $-2, 2$
- $-4$

31. *Correct Answers:*

- $2, -4$
- $-8$

33. *Correct Answers:*

- 225 ft
- 112.5 ft
- 25312.5 ft<sup>2</sup>

35. *Correct Answers:*

- 66 ft
- 49.5 ft
- 3267 ft<sup>2</sup>

37. *Correct Answers:*

- 42.4 ft
- 26.5 ft
- 1123.6 ft<sup>2</sup>

39. *Correct Answers:*

- \$46,512.50
- \$305.00
- \$260.00
- \$350.00



## 9\_3-GRAPHING\_QUADRATIC\_FUNCTIONS\_EXERCISES

1. *Correct Answers:*

- (0,3)
- (-1,0), (-3,0)

3. *Correct Answers:*

- (0, -4)
- (2,0), (-2,0)

5. *Correct Answers:*

- (0,0)
- (0,0), (4,0)

7. *Correct Answers:*

- (0,25)
- (-5,0)

9. *Correct Answers:*

- (0,4)
- DNE

11. *Correct Answers:*

- (0,1)
- (-0.17,0), (-5.83,0)

13. *Correct Answers:*

- (0,1)
- (-0.2,0)

15. *Correct Answers:*

- (0, -4)
- (-0.8,0), (-1,0)

37. *Correct Answers:*

- 12 s
- 2304 ft
- 24 s
- 2160 ft
- 5 s
- 19 s

39. *Correct Answers:*

- 18 s
- 1787.6 m
- 37.1002 s
- 1547.5 m
- 6 s
- 30 s

41. *Correct Answers:*

- Yes

43. *Correct Answers:*

- Yes

45. *Correct Answers:*

- 0.408163
- 20

47. *Correct Answers:*

- \$105.00
- \$645.00