

Math 20 - Tuesday, 2/21

Please turn in assignment 3 and midterm self-assessment

Questions

Finish 4.1 Intro to decimals

4.2, 4.3 adding + multiplying decimals

Spring registration starts next Tuesday!

Quiz 6 on Thursday (3.5, 3.7, 4.1, 4.2)

Midterm 2 next ~~Monday~~ <sup>Tuesday</sup> (Chap 3-4.4)

- all recovery work due ~~Monday~~ Tuesday
- review handed out today
- NO calculator, no times table

4.3 is not on the quiz :)

# Questions

4.1 Choose all correct ways to read

$$23.4\cancel{0}\cancel{0}$$
$$23.\underline{40}$$
$$23.\underline{400}$$

- A Twenty-three and four hundred thousandths
- B " forty hundredths
- C " four tenths
- D " "

3. A stick is  $2\frac{3}{4}$  inches long. A carpenter will cut off  $\frac{1}{5}$  of the stick. How much is cut off?

$$2\frac{3}{4} \cdot \frac{1}{5}$$

$$= \frac{11}{4} \cdot \frac{1}{5}$$

$$= \frac{11}{20}$$

They would cut off  $\frac{11}{20}$  of the stick.

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$$\frac{9}{1} \div \frac{10}{3}$$

$$\frac{9}{1} \cdot \frac{3}{10}$$

$$= \frac{27}{10} \text{ or } 2\frac{7}{10} \quad 2 \frac{7}{10}$$

$$\begin{aligned}
 &= \frac{1}{8} + \frac{2}{3} \left( \frac{7}{4} \right)^2 \\
 &= \frac{1}{8} + \frac{2}{3} \left( \frac{7 \cdot 7}{4} \right) \\
 &= \frac{1 \cdot 3}{8 \cdot 3} + \frac{49}{24} \quad \text{LCD} = 24 \\
 &= \frac{3}{24} + \frac{49}{24} \\
 &= \frac{52}{24} \\
 &= \frac{26}{12} \\
 &= \frac{13}{6}
 \end{aligned}$$

PEMDAS

$$\begin{aligned}
 &= \frac{1}{8} + \frac{2}{3} \cdot \frac{49}{16} \\
 &= \frac{1 \cdot 3}{8 \cdot 3} + \frac{49}{24} \\
 &= \frac{3}{24} + \frac{49}{24}
 \end{aligned}$$

$$\boxed{\sqrt{x^2} = |x|} \quad \text{algebra}$$

# 4.1 Rounding

to a whole number

|            |                   |   |
|------------|-------------------|---|
| <u>1.1</u> | closer to 1 or 2? | 1 |
| <u>1.2</u> |                   | 1 |
| <u>1.3</u> |                   | 1 |
| <u>1.4</u> |                   | 1 |
| <u>1.5</u> |                   | 2 |
| 1.6        |                   | 2 |
| 1.7        |                   | 2 |
| 1.8        |                   | 2 |
| 1.9        |                   | 2 |

to the nearest tenth

|                              |  |     |
|------------------------------|--|-----|
| <u>7.21</u>                  | closer to 7.2 or 7.3?                              | 7.2 |
| <u>7.26</u>                  |  | 7.3 |
| <u>7.22</u>                  |  | 7.2 |
| <u>7.29</u>                  |  | 7.3 |
| <sup>+1</sup><br><u>7.99</u> | $\approx 8.0$ or 8                                 |     |
| 8.0                          | $\uparrow$<br>approximately equal to<br>= equal to |     |

82.349167

Round to the nearest whole #: one : 82

ten : 80

tenth : 82.3 wrong to write 82.30  
end at tenths

hundredth : 82.35

thousandth : 82.349

ten-thousandth : 82.3492

hundred-thousandth : 82.34917

## 4.2 Adding Decimals + Subtracting

$$\$2.99 + \$6.49 + \$22.99$$

$$\begin{array}{r} \phantom{+} \phantom{+} \phantom{+} \\ \phantom{+} \phantom{+} \phantom{+} \\ \phantom{+} \phantom{+} \phantom{+} \\ + \phantom{+} \phantom{+} \phantom{+} \\ \hline \$32.47 \end{array}$$

Line up the  
decimals and bring  
the decimal straight  
down

## 4.3 Multiplying Decimals

$$\begin{array}{r} \phantom{\$} \phantom{.} \phantom{9} \phantom{9} \phantom{9} \\ \phantom{\$} \phantom{.} \phantom{9} \phantom{9} \phantom{9} \\ \times \phantom{.} \phantom{9} \phantom{9} \phantom{9} \\ \hline \phantom{\$} \phantom{.} \phantom{9} \phantom{9} \phantom{9} \end{array}$$

Line up digits  
on the right  
hand side

Do long multiplication

Count # of digits  
after the decimal  
in both numbers

$$\begin{array}{r} \phantom{\$} \phantom{.} \phantom{9} \phantom{9} \phantom{9} \\ \phantom{\$} \phantom{.} \phantom{9} \phantom{9} \phantom{9} \\ \times \phantom{.} \phantom{9} \phantom{9} \phantom{9} \\ \hline \phantom{\$} \phantom{.} \phantom{9} \phantom{9} \phantom{9} \end{array}$$

Count that many  
places over in your  
answer.

$$\begin{array}{r}
 \cancel{2} \overset{3}{+4} 201.\underline{6} \quad \swarrow \text{line up} \\
 \times \quad .\underline{57} \\
 \hline
 14112 \\
 + 100800 \quad \leftarrow \\
 \hline
 114912
 \end{array}$$

$$114.912$$

$$5 \times 10 = 50$$

$$5 \times 100 = 500$$

$$5 \times 1000 = 5000$$

$$5 \times .1 = .5$$

$$5 \times .01 = .05$$

$$\frac{1}{10} \cdot \frac{5}{1} = \frac{5}{10} = \frac{1}{2}$$

$$\frac{1}{100} \cdot \frac{5}{1} = \frac{5}{100}$$

$$\begin{array}{r}
 8.\underline{32} \\
 \times \quad .\underline{01} \\
 \hline
 .\underline{0832}
 \end{array}$$

$$\begin{array}{r}
 \overset{1}{.}\underline{402} \\
 \times \quad \underline{0.8} \\
 \hline
 .\underline{3216}
 \end{array}$$