

Math 20 - Thurs, Feb 2

Questions on 2.1-2.5

Quiz 4 on 2.1-2.5

Finish 3.1

1.5 Divisibility Rules

1.7 Primes and Composites

3.2 Multiplication of Fractions

~~Assignment 2 (team) due Tuesday 2/7 (1 per team)~~
Midterm 1 next Thursday (1-3.3)

Review handout

Scavenger hunt due next Thurs

webwork

$$\frac{8}{0} \text{ or } 8 \div 0$$

Use "DNE" or "undefined"

- which one is stated in the instructions

$$-3^4 = -81$$

\downarrow
 $-3 \cdot 3 \cdot 3 \cdot 3$

$$(-3)^4 = (-3)(-3)(-3)(-3)$$
$$= 81$$

$$-2^3 =$$

\downarrow
 $-2 \cdot 2 \cdot 2 = -8$

$$(-2)^3 = (-2)(-2)(-2) = -8$$

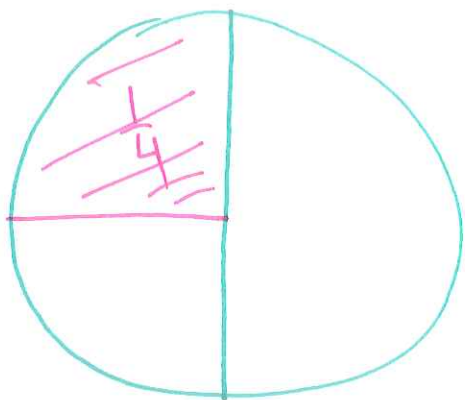
$$-2^3$$

$$= -2 \cdot 2 \cdot 2$$

$$= -8$$

you have a

3.2 multiplying fractions



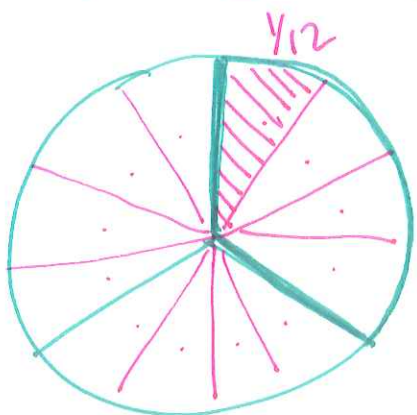
what is half of a half
 $\frac{1}{2} \cdot \frac{1}{2}$ multiply

$$\frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$

$$\frac{1}{2} \cdot \frac{8}{1} = \frac{8 \div 2}{2 \div 2} = \frac{4}{1} = 4$$

what is

$$\frac{1}{4} \text{ of } \frac{1}{3} ? \quad \frac{1}{3} \cdot \frac{1}{4}$$



$$\frac{1}{4} \cdot \frac{1}{3} = \frac{1}{12}$$



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

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

Examples:

$$\textcircled{1} \quad \frac{1}{2} \cdot \frac{1}{7} = \frac{1}{14}$$

Multiply straight
across
and reduce

$$\textcircled{2} \quad \frac{3}{8} \cdot \frac{5}{9} = \frac{15 \div 3}{72 \div 3} = \frac{5}{24}$$

$$\frac{\overset{1}{24}}{\underset{3}{72}}$$

cross-cancelling - pre-reducing

$$\overset{1}{\cancel{3} \div 3} \cdot \frac{5}{\underset{3}{\cancel{9} \div 3}} = \frac{5}{24}$$

$$\textcircled{3} \quad \frac{8}{15} \cdot \frac{5}{12} = \frac{40}{180}$$

cross-cancel

$$\overset{2}{\cancel{8} \div 4} \cdot \frac{\overset{1}{\cancel{5} \div 5}}{\underset{3}{\cancel{12} \div 4}} = \frac{2}{9}$$

$$\textcircled{3} \quad \frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{8}$$

$$\left(\frac{1}{2}\right)^3$$

$$\frac{1}{2} \cdot \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{8}$$

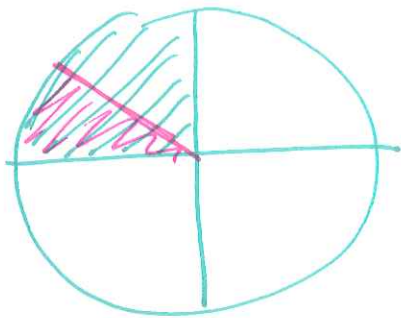
$$\frac{1^3}{2} = \frac{1 \cdot 1 \cdot 1}{2}$$

④

$$\frac{2}{5} \cdot \frac{\overset{1}{\cancel{10}}}{7} \cdot \frac{\overset{2}{\cancel{14}}}{\underset{3}{\cancel{30}}} = \frac{4}{15}$$

$$\frac{\underset{1}{\cancel{2}}}{5} \cdot \frac{\overset{1}{\cancel{10}}}{7} \cdot \frac{\overset{2}{\cancel{14}}}{\underset{15}{\cancel{30}}} = \frac{4}{15}$$

3.3 Dividing Fractions



$$\frac{1}{4} \cdot \frac{1}{2} = \frac{1}{8}$$

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

$$\frac{1}{4} \div \frac{2}{1} \text{ flip}$$
$$\frac{1}{4} \cdot \frac{1}{2} = \frac{1}{8}$$

Dividing by 2
is the same
as multiplying
by $\frac{1}{2}$

$$\frac{2}{5} \div \frac{3}{6} \curvearrowright$$

$$= \frac{2}{5} \cdot \frac{6}{3} \cdot 2$$

$$= \frac{4}{5}$$