

6th Grade  
Dec 14, 2020

Turn in THQ if you did not ~~yesterday~~.

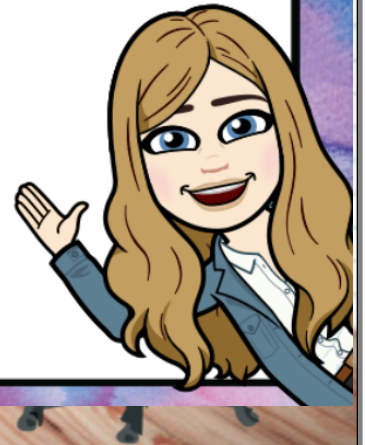
See whiteboard for test makeups.


Today we will:  
-review Friday's WS  
-review chapter with white boards  
-begin study guide if time

HOMEWORK:

Study for test  
TOMORROW

ALEKS 60 min and 5  
topics due by midnight  
TONIGHT




 Name \_\_\_\_\_  
 VIDEO NOTES Unit \_\_\_\_ Lesson \_\_\_\_ Due Date \_\_\_\_

# EQUVALENT RATIOS

Two ratios or rates are equal (or equivalent) when...

1. ...they create the same Unit rate ;

WE DO: 18 vocab words in 2 hours  
 ✓ 27 vocab words in 3 hours

$$\frac{18}{2} \div \frac{2}{2} = \frac{9 \text{ words}}{1 \text{ hour}} \quad \frac{27}{3} \div \frac{3}{3} = \frac{9 \text{ words}}{1 \text{ hour}}$$

✓ yes, they are = ratios.

2. ...they create equivalent fractions ; OR

WE DO:

20 out of 45 people go to a concert  
 10 out of 20 people go to a movie

$$\frac{10}{20} \times \frac{2}{2} = \frac{20}{40} \neq \frac{20}{45}$$

3. ...they have equal cross products .

WE DO:

$$\frac{5 \text{ dogs}}{6 \text{ cats}} = \frac{7 \text{ dogs}}{8 \text{ cats}} \quad 5 \times 8 \stackrel{?}{=} 6 \times 7$$

$$40 \neq 42$$

## Lesson 6 Skills Practice

### Equivalent Ratios

Determine if each pair of ratios or rates are equivalent. Explain your reasoning.

1. \$18 for 3 bracelets; \$30 for 5 bracelets

$$\text{yes; } \frac{\$18}{3 \text{ bracelets}} = \frac{\$30}{5 \text{ bracelets}}$$

2. 120 Calories in 2 servings; 360 Calories in 6 servings

$$\text{yes; } \frac{120 \text{ Calories}}{2 \text{ servings}} = \frac{360 \text{ Calories}}{6 \text{ servings}}$$

3. 4 hours worked for \$12; 7 hours worked for \$28

$$\text{no; } \frac{4 \text{ h}}{\$12} = \frac{1 \text{ h}}{\$3} \text{ and } \frac{7 \text{ h}}{\$28} = \frac{1 \text{ h}}{\$4}$$

4. 15 blank CDs for \$5; 45 blank CDs for \$15

$$\text{yes; } \frac{15 \text{ CDs}}{\$5} = \frac{45 \text{ CDs}}{\$15}$$

5. 24 points scored in 4 games; 48 points scored in 10 games

$$\text{no; } \frac{24 \text{ points}}{4 \text{ games}} = \frac{6 \text{ points}}{1 \text{ game}} \text{ and } \frac{48 \text{ points}}{10 \text{ games}} = \frac{24 \text{ points}}{5 \text{ games}}$$

6. 15 out of 20 students own hand-held games; 105 out of 160 students own hand-held games.

$$\text{no; } \frac{15}{20} = \frac{3}{4} \text{ and } \frac{105}{160} = \frac{21}{32}$$

7. 30 minutes to jog 3 miles; 50 minutes to jog 5 miles

$$\text{yes; } \frac{30 \text{ min}}{3 \text{ mi}} = \frac{50 \text{ min}}{5 \text{ mi}}$$

8. \$3 for 6 muffins; \$9 for 18 muffins

$$\text{yes; } \frac{\$3}{6 \text{ muffins}} = \frac{\$9}{18 \text{ muffins}}$$

9. 360 miles driven on 12 gallons of fuel; 270 miles driven on 9 gallons of fuel

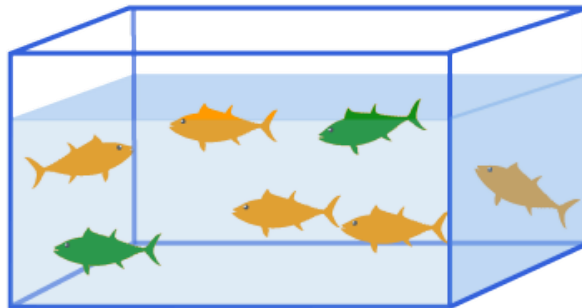
$$\text{yes; } \frac{360 \text{ mi}}{12 \text{ gal}} = \frac{270 \text{ mi}}{9 \text{ gal}}$$

10. **SHOPPING** Miguel bought 2 pairs of jeans for \$50, and Han bought 4 pairs of jeans for \$90. Did they pay the same rate? Explain your reasoning.

**No; the fractions  $\frac{50}{2}$  and  $\frac{90}{4}$  are not equivalent.**



What is the ratio of green fish to orange fish?



2 to 5

2:5

$\frac{2}{5}$

2:7

$\frac{5}{2}$

$\frac{7}{5}$

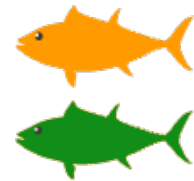
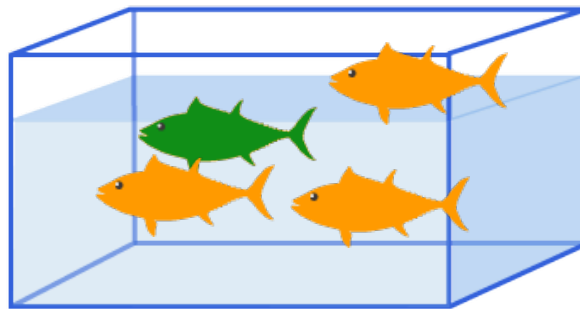
5 to 2

ANSWER

QUESTION

DRAG  
↑

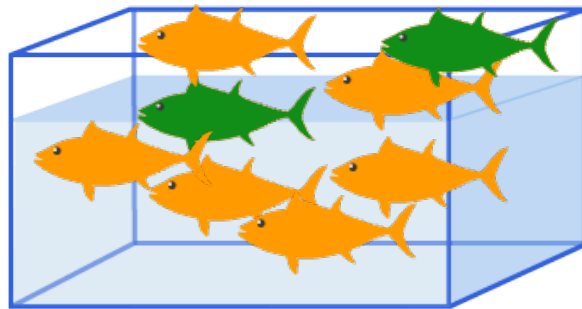
There are 4 fish in the tank.  
The ratio of green fish to orange fish is 1:3



CLONE  
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ANSWER

There are 8 fish in the tank.  
The ratio of green fish to orange fish is 1:3

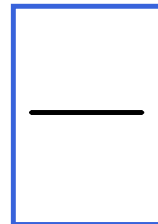
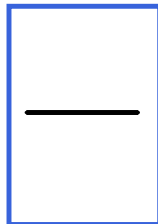
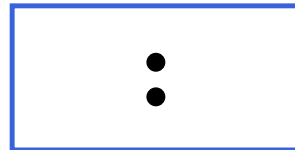
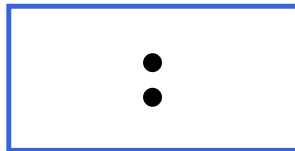
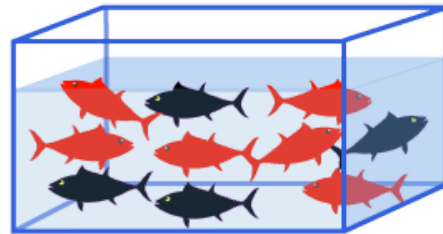
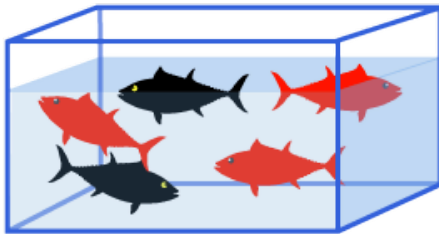


CLONE  
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$$\frac{1}{3} = \frac{2}{6}$$

ANSWER

What is the ratio of black fish to red fish?

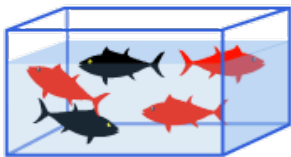


ANSWER

ANSWER

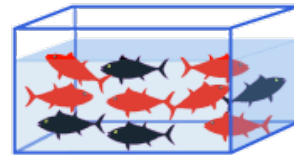


What do you notice?



$$\frac{2}{3}$$

$$\frac{4}{6}$$



● CLICK

## Match the equivalent ratios

6 to 8

$$\frac{3}{4}$$

9:12

1:10

6:60

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

$$\frac{10}{4}$$

3:15

1 to 5

10:12

$$\frac{5}{6}$$

$$\frac{10}{5}$$

HINT

ANSWER

## Find other equivalent ratios

$\frac{5}{6}$	10:12	—
1 to 5	3:15	—
$\frac{5}{2}$	$\frac{10}{4}$	:
$\frac{3}{4}$	9:12	6 to 8
1:10	6:60	—

**Solve these ratio problems**

The ratio of orange juice to water for this recipe is 1:5

	<b>Orange</b>	<b>Water</b>
<b>Batch 1</b>	1 qt	qt
<b>Batch 2</b>	2 gal	gal
<b>Batch 3</b>	pt	30 pt

ANSWER ●

ANSWER ●

ANSWER ●

## Complete the ratio tables

1			4
			28

32		24
20		

21			49
33			

What is the greatest common factor of 36 and 42?

- A. 12                      B. 8                      C. 6                      D. 2

At a summer camp, there are 50 girls out of 80 campers. What is this ratio written as a fraction in simplest form?

- F.  $\frac{8}{10}$                       G.  $\frac{5}{8}$                       H.  $\frac{1}{2}$                       I.  $\frac{3}{8}$

The table lists the number of students from Windy Brook Middle School at the state fair. What is the ratio of sixth graders to the total number of students at the fair?

Students at the State Fair	
5th graders	6
6th graders	4
7th graders	5
8th graders	3

$$\frac{4}{18}$$

- A.  $\frac{9}{2}$                       B.  $\frac{14}{4}$                       C.  $\frac{4}{14}$                       D.  $\frac{2}{9}$

Exercises 4 and 5, what is each rate written as a unit rate?

6 miles in 2 hours

- F.  $\frac{6 \text{ mi}}{1 \text{ h}}$                       G.  $\frac{4 \text{ mi}}{1 \text{ h}}$                       H.  $\frac{3 \text{ mi}}{1 \text{ h}}$                       I.  $\frac{1 \text{ mi}}{3 \text{ h}}$

$$\frac{6 \text{ mi}}{2 \text{ hr}} \div \frac{2}{2} = \frac{3 \text{ mi}}{1 \text{ hr}}$$

18 pounds for \$9

- A.  $\frac{2 \text{ lb}}{\$1}$                       B.  $\frac{6 \text{ lb}}{\$1}$                       C.  $\frac{1 \text{ lb}}{\$2}$                       D.  $\frac{1 \text{ lb}}{\$6}$

A manatee surfaced for air 3 times in 120 seconds. How many seconds went by before the manatee surfaced the first time if it held its breath for the same rate?

- F. 10 s                      G. 20 s                      H. 30 s                      I. 40 s

$$\frac{3}{120} \div \frac{3}{3} = \frac{1 \text{ breath}}{40 \text{ sec}}$$

Juan read 300 pages in 5 days. Which reading rate is equivalent?

- A.** 150 pages in 3 days                      **C.** 105 pages in 1 day  
**B.** 120 pages in 2 days                      **D.** 100 pages in 3 days

A scanner can scan 40 pages in 4 minutes. At this rate, how many pages can it scan in 2 minutes?

- F.** 80 pages    **G.** 40 pages    **H.** 20 pages    **I.** 10 pages

Chantel counted 48 books on 6 shelves in the library. How many books would she expect to count on 12 shelves?

- A.** 24 books    **B.** 56 books    **C.** 96 books    **D.** 144 books

