

PROPORTIONS

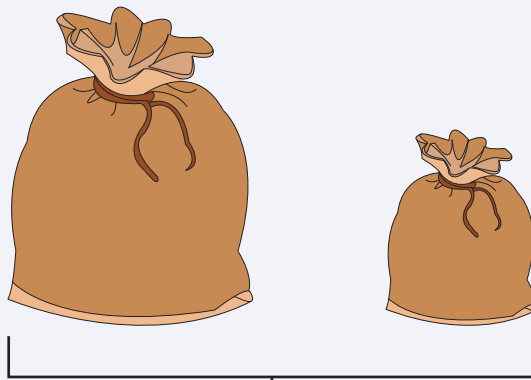
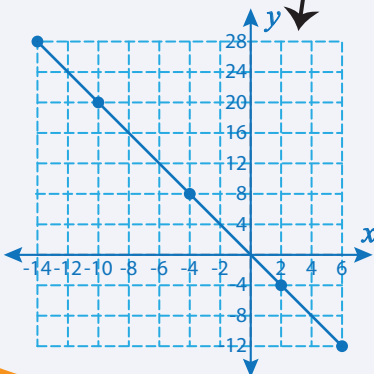
7th
Grade

$$\frac{5}{15} \text{ and } \frac{3}{9}$$

x	8	-2	5	7
y	40	-10	25	35

$$\frac{45}{27} \neq \frac{x}{3}$$

Identifying
Proportions



Proportional

Workbook 1

Proportion - Ratio

Write whether each pair of ratios forms a proportion.

1) $\frac{12}{7}$ and $\frac{36}{21}$

2) $\frac{3}{11}$ and $\frac{17}{6}$

3) $\frac{60}{55}$ and $\frac{7}{42}$

4) $\frac{4}{10}$ and $\frac{8}{20}$

5) $\frac{10}{24}$ and $\frac{25}{60}$

6) $\frac{7}{6}$ and $\frac{52}{48}$

7) $\frac{17}{8}$ and $\frac{1}{2}$

8) $\frac{5}{15}$ and $\frac{3}{9}$

9) $\frac{56}{72}$ and $\frac{7}{9}$

10) $\frac{4}{21}$ and $\frac{16}{84}$

Proportion - Table

Determine whether the x and y values in each table are proportional.

1)

x	1	3	9	5
y	2	6	18	10

2)

x	2	4	8	6
y	6	12	24	21

3)

x	-3	9	-7	5
y	9	-27	21	-15

4)

x	-2	1	3	-4
y	-8	4	12	-16

5)

x	-5	-2	-4	-9
y	-30	-12	-20	-36

6)

x	4	8	10	12
y	10	16	22	24

7)

x	8	-2	5	7
y	40	-10	25	35

8)

x	18	12	6	3
y	6	4	2	1

Form a Proportion

Create a proportion using the given set of numbers.

1) 1, 4, 2, 2

$$\underline{\quad 1 : 2 = 2 : 4 \quad}$$

2) 5, 25, 3, 15

3) 18, 8, 12, 27

4) 3, 9, 12, 4

5) 14, 16, 28, 8

6) 21, 1, 3, 7

7) 8, 6, 48, 1

8) 11, 30, 33, 10

9) 15, 24, 12, 30

10) 49, 7, 35, 5

Form a Proportion

Create a proportion from each set of numbers. Only use 4 numbers from each set.

1) 12, 32, 10, 16, 24

2) 35, 1, 2, 10, 70

12 : 16 = 24 : 32

3) 25, 7, 16, 80, 5

4) 9, 48, 12, 6, 24

5) 60, 5, 8, 96, 11

6) 15, 63, 13, 21, 39

7) 88, 8, 61, 32, 22

8) 5, 72, 9, 21, 40

9) 6, 36, 7, 29, 42

10) 97, 63, 81, 27, 21

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Solving Proportions

- 1) Isaac and his friends pitched 4 Trekker tents in 60 minutes on a camping site. How long will they take to pitch 5 tents?

- 2) Fiona, an avid food blogger posted a total 216 recipes in 36 weeks. If she posted them at a constant rate, how many recipes did she upload in 15 weeks' time?

- 3) Jacob strode up 24 steps in 12 seconds to reach his apartment on the second floor. How many steps did he climb in 9 seconds?

- 4) Derek uses a 52 inch flat steel bar that weighs 10.4 lb to make a rack in the garage. Find the weight of a 67-inch steel bar.

- 5) Mike completed an online course that contained 20 core topics in a total of 40 learning hours. How many topics did he complete in 12 hours time?

- 6) Alexa bought a pack of 12 cookies for \$3.50 from the supermarket. How many packs of cookies can she buy for \$17.50?

Rate and Unit Rate

Write the rate and unit rate for each phrase given below.

- 1) 80 inches of snow over 10 days

Rate : _____

Unit Rate : _____

- 2) 3 comic books for 3 dollars

Rate : _____

Unit Rate : _____

- 3) 5 pounds of potatoes cost \$10

Rate : _____

Unit Rate : _____

- 4) 20 chairs in 2 rows

Rate : _____

Unit Rate : _____

- 5) 63 peaches in 7 bowls

Rate : _____

Unit Rate : _____

- 6) 480 hours of work in 12 weeks

Rate : _____

Unit Rate : _____

Unit Rate

- 1) Jessica bakes 112 muffins in 7 batches. How many muffins does each batch contain?

- 2) Henry is an avid reader. He devours 90 pages in half-an-hour. How many pages has Henry read per minute?

- 3) Simon neatly arranges 35 radio-controlled cars in 5 rows on the shelf. Find the number of cars placed in each row.

- 4) Diana bought two dolls for her nieces. How much did each doll cost, if she purchased them for \$70?

- 5) On New Year's Eve, the temperature fell by 24 degrees in a span of 6 hours. By how many degrees did the temperature fall every hour?

- 6) Four business class railcars in Acela express has a total capacity of 260 passengers. How many passengers can travel per railcar?

Unitary Method

- 1) The O'Connor family consumes 20 jugs of milk in 4 weeks. How much milk will the family require for 8 weeks?

- 2) Pete bought 20 sets of crayons as return gifts for his daughter's birthday party. He spent a total of \$60 on the purchase. Find the cost of 9 crayon sets.

- 3) Gwenna uses 4 tomatoes to prepare soup for 2 guests. How many tomatoes will she require to make soup for 6 guests?

- 4) Janice drove 360 miles in 6 hours. If she travels at a constant rate, calculate the distance she will cover in 7 hours.

- 5) Kayla used 3 cups of flour to bake 24 muffins. How many muffins can Kayla bake with 4 cups of flour?

- 6) Rachel divided 105 strawberries equally into 7 boxes. How many strawberries will 5 such boxes contain?
