PROPORTIONS

$\dfrac{5}{15}$ and $\dfrac{3}{9}$

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

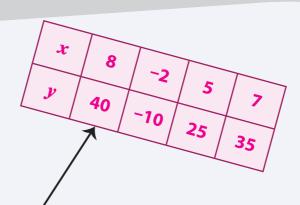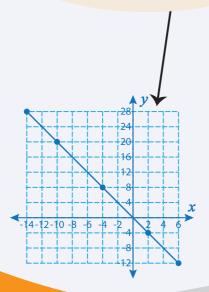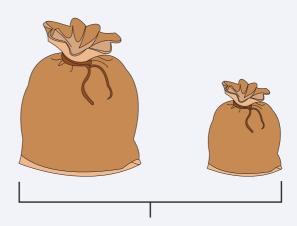$$\dfrac{45}{27} \times \dfrac{x}{3}$$

Identifying Proportions

Proportional

Workbook 1

Proportion - Ratio

Write whether each pair of ratios forms a proportion.

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

_____

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

_____

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

_____

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

_____

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

_____

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

_____

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

_____

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

_____

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

_____

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

_____

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

1 : 2 = 2 : 4
_____

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

$$12 : 16 = 24 : 32$$

2) 35, 1, 2, 10, 70

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?

_____