Proportions

Long-Term Memory Review – Grade 7

Review 1

1. Use the following words to fill in the blanks.

   Difference *Division* *Ratio* *Fraction* *Similarity* *Comparison*

   A _____ is a _____ of two numbers using _____.

2. Which is the correct expression to find the cross products of the proportion $\frac{6}{7}=\frac{12}{14}$?

   A) $6\cdot12,\ 7\cdot14$ B) $6\cdot14,\ 7\cdot12$ C) $6+14,\ 7+12$ D) $6+12,\ 7+14$

3. Holly can run 6 miles in 46 minutes. Using the proportion $\frac{6\text{ mi}}{46\text{ min}}=\frac{15\text{ mi}}{x\text{ min}}$, how many minutes will it take her to run 15 miles?

4. The heart pumps out 10 liters of blood every 2 minutes. Write this ratio in three equivalent forms.

5. A piggy bank contains 36 coins that are quarters and dimes in the ratio of 4:5, respectively. How many quarters are in the piggy bank?

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Review 2

1. Use the following words to fill in the blanks.

   Difference *Division* *Three* *Two* *Ratio* *Fraction*

   A _____ is a comparison between _____ numbers using _____.

2. What are the cross products of the proportion $\frac{6}{7}=\frac{12}{14}$?

   A) 19 B) 29 C) 39 D) 84

3. Vanilla ice cream has 3 cups of sugar for every 8 teaspoons of vanilla extract. How much sugar will there be in vanilla ice cream that contains 24 teaspoons of vanilla extract? (Hint: Set up a proportion using $\frac{\text{grams sugar}}{\text{grams vanilla}}$.)

4. Five gallons of gas will allow a car to drive 125 miles and 10 gallons of gas will allow a car to drive 250 miles. Which proportion represents this problem?

   A) $\frac{5}{125}=\frac{250}{10}$ B) $\frac{5}{10}=\frac{250}{125}$ C) $\frac{10}{125}=\frac{250}{5}$ D) $\frac{5}{125}=\frac{10}{250}$

5. There are 56 red and blue marbles in a bag in the ratio of 2:5, respectively. How many red marbles are in the bag?

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Review 3

1. Use the following words to fill in the blanks.

   Difference *Division* *Ratio* *Fraction* *Similarity* *Comparison*

   A _____ is a _____ between two numbers using _____.

2. Which value of *x* would make the proportion $\frac{3}{8} = \frac{15}{x}$ true?

   A) 20 B) 24 C) 30 D) 40

3. Two gallons of gas allows Jake's car to travel 48 miles. How many miles will the car be able to travel with 11 gallons of gas?

4. What are two equivalent ways to write the ratio 4:5?

5. A box contains 42 paper clips that are large and small size in the ratio of 1:6, respectively. How many small size paper clips are in the box?

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Review 4

1. There are 5 pens and 9 pencils in a drawer. Write the ratio of pens to pencils in three equivalent forms.

2. What value of *x* would make the proportion $\frac{4}{5}=\frac{12}{x}$ true?

   A) 9 B) 12 C) 13 D) 15

3. One egg is required to make 7 pancakes and five eggs will make 35 pancakes. Which proportion represents this problem?

   A) $\frac{1}{7}=\frac{35}{5}$ B) $\frac{1}{5}=\frac{35}{7}$ C) $\frac{5}{7}=\frac{35}{1}$ D) $\frac{1}{7}=\frac{5}{35}$

4. Three cups of strawberries are needed to make four strawberry cheesecake bars. How many cups of strawberries are needed to make 22 bars?

5. In one bag of M&Ms, the ratio of brown to yellow is 2:6, respectively. There are 12 brown M&Ms in a bag. How many M&Ms in that bag are yellow?

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Quiz

1. There are 17 girls and 23 boys in a class. Write the ratio of girls to boys in three equivalent forms.

2. What value of *x* would make the proportion $\frac{2}{3} = \frac{8}{x}$ true?

   A) 7 B) 13 C) 9 D) 12

3. Thirty minutes on a treadmill will burn 150 calories, and 45 minutes will burn 225 calories. Which proportion represents this problem?

   A) $\frac{30}{225} = \frac{45}{150}$ B) $\frac{30}{150} = \frac{45}{225}$ C) $\frac{45}{150} = \frac{225}{30}$ D) $\frac{30}{225} = \frac{150}{45}$

4. In order to pass fire code, 3 customers are allowed in a restaurant for every 15 square feet of space. How many customers are allowed in a restaurant that is 500 square feet?

5. A bag of 24 candy bars contains dark chocolate bars and milk chocolate bars in the ratio of 3:5. How many dark chocolate bars are in the bag?

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Answers

Review 1- Answers

1) ratio; comparison; division
2) B
3) 115 minutes
4) 10:2 or 10 to 2 or $\frac{10}{2}$ (5:1 or 5 to 1 or $\frac{5}{1}$)
5) 16 quarters

Review 2- Answers

1) ratio; two;division
2) D
3) 9 cups of sugar
4) D
5) 16 red marbles

Review 3- Answers

1) comparison; two; division
2) D
3) 264 mi
4) 4 to 5 or $\frac{4}{5}$
5) 36 small size paper clips

Review 4- Answers

1) 5:9 or 5 to 9 or $\frac{5}{9}$
2) D
3) D
4) 16.5 cups of strawberries
5) 36 yellow M&Ms

Quiz - Answers

1) 17:23 or 17 to 23 or $\frac{17}{23}$
2) D
3) B
4) 100 customers
5) 9 dark chocolate bars