

## Grade 6 Mathematics

### Ratios and Proportional Relationships

6.RP.1

1. There are 42 boys and 34 girls on the track team. Select the statements that are true.

- A. The ratio of boys to girls is 21 to 17.
- B. The ratio of boys to the members of the track team is 21 to 38.
- C. The ratio of girls to the members of the track team is 17 to 19.
- D. The ratio of girls to boys is 21 to 17.
- E. The ratio of boys to girls is 42 to 76.

6.RP.3.c

2. Which fractions represent 75%? Select **all** that apply.

- A.  B.  $\frac{2}{4}$   C.  $\frac{3}{4}$   D.  $\frac{6}{7}$   E.  $\frac{15}{20}$   F.  $\frac{8}{9}$

6.RP.2

3. For every 4 votes John received in the election, Kevin received 5 votes. If John received 108 votes, how many did Kevin receive? Use the numbers to complete the proportion and solve the problem.



$$\frac{\square}{\square} = \frac{\square}{\square}$$

Kevin received a total of  votes

6.RP.3.b

4. It took Heather 2 hours to walk 7 miles. How far would Heather walk in 5 hours? Write your answer in the box.

miles

6.RP.2

5. Mary baked chocolate chip cookies. Her recipe had a ratio of 5 cups of flour to 2 cups of chocolate chips. If she used 3 cups of flour, how many cups of chocolate chips did she use?

Use the numbers to complete the proportion and solve the problem.

$$\frac{\square}{\square} = \frac{\square}{\square}$$

Mary used  cups of chocolate chips.

6.RP.3.b

6. On vacation Chase bought some shells at one of the souvenir shops. If he spent \$24 for 8 shells, what is the rate per shell? Fill in the blanks to complete the proportion and solve the problem.

$$\frac{\square}{\square} = \frac{\square}{\square} = \$ \square \text{ per shell}$$

6.RP.3.a

7. A construction worker made a table showing what size nail is needed based on the length of the wood being used.

<b>Board length</b>	3 ft	6 ft	9 ft	12 ft
<b>Nail length</b>	1 in	2 in	3 in	4 in

What is the ratio of nail length to board length? Use the drop-down menu to complete the ratio.

nail length   inch(es) : board length   feet

1
3
6

1
3
6

6.RP.3.a

8. Phillip made a table showing the ratio between the length of time he spent watching TV and the number of shows watched. He watches at a constant rate.

**Part A**

Complete the table.

Length of time (in minutes)	30	60	120	150	180
Number of shows watched	1	2	4		

**Part B**

If Phillip watched TV for 180 minutes, how many shows did he watch? Write your answer in the box.

shows

6.RP.3.b

9. It took Lauren 5 hours to mow 3 lawns. How many lawns could she mow in 30 hours?  
Fill in the blanks to complete the proportion.

$$\frac{\square}{\square} = \frac{\square}{\square}$$

Lauren can mow  lawns in 30 hours.

6.RP.3.c

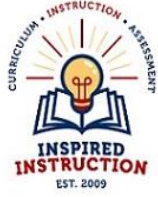
10. Sandy sat down to do her math homework. She had already completed 6 problems, which represents 20% of the total number of problems. How many total problems were on her assignment?

Use the numbers to complete the proportion.

20     40     100     5     30     6

$$\frac{\square}{\square} = \frac{\square}{\square}$$

Sandy had  problems on her homework assignment.



## ANSWER KEY

6.RP.1

1.

- The ratio of boys to girls is 21 to 17.
- The ratio of boys to the members of the track team is 21 to 38.
- The ratio of girls to the members of the track team is 17 to 19.
- The ratio of girls to boys is 21 to 17.
- The ratio of boys to girls is 42 to 76.

6.RP.3.c

2.

- A.  $\frac{2}{10}$      B.  $\frac{2}{4}$      C.  $\frac{3}{4}$      D.  $\frac{6}{7}$      E.  $\frac{15}{20}$      F.  $\frac{8}{9}$

6.RP.2

3.

$$\frac{4}{5} = \frac{108}{135}$$

Kevin received a total of  votes

6.RP.3.b

4. 17.5 miles

6.RP.2

5. Possible solution

$$\frac{5}{2} = \frac{3}{1\frac{1}{5}}$$

Mary used  cups of chocolate chips.

6.RP.3.b

6. Possible solution

$$\frac{\boxed{24}}{\boxed{8}} = \frac{\boxed{3}}{\boxed{1}} = \$\boxed{3} \text{ per shell}$$

6.RP.3.a

7.

nail length

Choose	▼
<input checked="" type="radio"/>	1
<input type="radio"/>	3
<input type="radio"/>	6

inches to board length

Choose	▼
<input type="radio"/>	1
<input checked="" type="radio"/>	3
<input type="radio"/>	6

feet

6.RP.3.a

8. Part A

Length of time (in minutes)	30	60	120	150	180
Number of shows watched	1	2	4	<b>5</b>	<b>6</b>

Part B

6 shows

6.RP.3.b

9. Possible solution

$$\frac{\boxed{5}}{\boxed{3}} = \frac{\boxed{30}}{\boxed{18}}$$

Lauren can mow  lawns in 30 hours.

6.RP.3.c

10. Possible solution

$$\frac{\boxed{20}}{\boxed{100}} = \frac{\boxed{6}}{\boxed{30}} = \boxed{30} \text{ total problems}$$