

Grade	Brunette	Blonde	Other
8	27	8	15
9	15	21	14
10	33	11	6
11	20	23	7
Total number of students	95	63	42

2

1. How many students were surveyed? Use a complete sentence in your answer.

Two hundred students were surveyed.

2. Write the ratio of the number of blonde students to the number of students surveyed. Write the ratio two different ways.

$\frac{63 \text{ students}}{200 \text{ students}}$ ; 63 students : 200 students

3. Write the ratio of the number of brunette students in the 10th grade to the total number of brunette students. Write the ratio two different ways.

$\frac{33 \text{ students}}{95 \text{ students}}$ ; 33 students : 95 students

Complete each proportion.

4.  $\frac{27}{63} = \frac{3}{\boxed{7}}$

5.  $\frac{3}{5} = \frac{\boxed{12}}{20}$

Solve each proportion using the products of the means and the extremes. Show all your work.

6.  $\frac{297}{x} = \frac{3}{11}$

$3x = 11(297)$

$3x = 3267$

$x = 1089$

7.  $\frac{35}{90} = \frac{x}{18}$

$90x = 18(35)$

$90x = 630$

$x = 7$

2

8. To make pink paint, Tamika mixes 2 parts white paint and 5 parts red paint. Write a ratio that compares the number of parts of red paint to the total number of parts of paint. Then simplify the ratio, if possible.

$$\frac{5 \text{ parts red}}{7 \text{ total parts}}$$

9. Write the given fractions in order from least to greatest. Show all your work and use a complete sentence in your answer.

$$\frac{4}{9}, \frac{2}{5}, \frac{3}{7}$$

$$\frac{4}{9} = \frac{140}{315}, \quad \frac{2}{5} = \frac{126}{315}, \quad \frac{3}{7} = \frac{135}{315}$$

The fractions in order from least to greatest are  $\frac{2}{5}$ ,  $\frac{3}{7}$ , and  $\frac{4}{9}$ .

10. Donald can ride his bicycle 63 miles in 3 hours. Write a rate to determine the number of miles Donald can ride in one hour.

$$\frac{63 \text{ miles}}{3 \text{ hours}} = \frac{21 \text{ miles}}{1 \text{ hour}}$$

11. Triangle JKL is similar to triangle MNO. What is the length of MN? Show all your work and use a complete sentence in your answer.

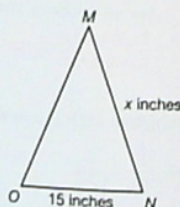
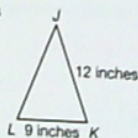
$$\frac{12 \text{ inches}}{9 \text{ inches}} = \frac{x}{15 \text{ inches}}$$

$$9x = 12(15)$$

$$9x = 180$$

$$x = 20$$

The length of MN is 20 inches.



12. One furlong is equal to 220 yards. Use a proportion to determine the part of a furlong that is equivalent to 132 yards. Show all your work and use a complete sentence in your answer.

$$\frac{1 \text{ furlong}}{220 \text{ yards}} = \frac{x}{132 \text{ yards}}$$

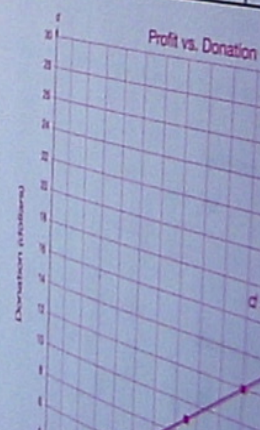
$$220x = 132$$

Use the data below to answer Questions 13-15.

A local store is raising money for cancer research. They will donate part of their profit on the bracelet cancer research facility. The table at the right lists the relationship between the profit from bracelet sales and the amount donated to cancer research.

13. Make a line graph that displays the relationship between the profit from bracelet sales and the amount of money donated to cancer research.

Variable quantity	Lower bound	Upper bound
Profit from bracelet sales	0	100
Money donated	0	20



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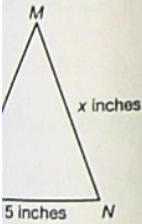
A local store is raising money for cancer research by selling bracelets. They will donate part of their profit on the bracelet sales to a national cancer research facility. The table at the right lists the relationship between the profit from bracelet sales and the amount of money donated to cancer research.

Profit	Donation
dollars	dollars
5	3
10	6
15	9
20	12
25	15

2

13. Make a line graph that displays the relationship between the profit from the bracelet sales and the amount of money donated to cancer research.

Variable quantity	Lower bound	Upper bound	Interval
Profit from bracelet sales	0	30	2
Money donated	0	30	2



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