

December
Math Bowl – Ratio, proportion

1. If a train moves at a constant speed of 7m/s, how many meters does the train travel in 1 hr?

$$\frac{7 \text{ meters}}{1 \text{ sec}} \times \frac{60 \text{ sec}}{1 \text{ min}} \times \frac{60 \text{ min}}{1 \text{ hr}} = 25,200 \text{ meters}$$

Proportions Worksheet 22

- 1a. A boat can travel 6 miles on 1 gallons of gasoline. How far can it travel on 34 gallons?

$$\frac{6 \text{ miles}}{1 \text{ gal}} = \frac{x}{34 \text{ gal}}$$

$$34 \times 6 = 204 \text{ miles}$$

- 1b. A car can travel 130 kilometers on 13 liters of gasoline. How far can it travel on 38 liters?

$$\frac{130 \text{ km}}{13 \text{ l}} = \frac{x \text{ km}}{38 \text{ l}}$$

$$\frac{130 \times 38}{13} = 380 \text{ km}$$

- 2a. A boat can travel 56 miles on 8 gallons of gasoline. How far can it travel on 67 gallons?

$$\frac{56 \text{ miles}}{8 \text{ gal}} = \frac{x \text{ miles}}{67 \text{ gal}}$$

$$\frac{56}{8} = \frac{7 \text{ miles}}{\text{gal}}$$

$$\begin{array}{r} 67 \\ \times 7 \\ \hline 469 \text{ miles} \end{array}$$

- 2b. A car travels 91 miles in 3 hours (with a constant speed). How far can it travel in 11 hours (with the same speed)?

$$\frac{91 \text{ miles}}{3 \text{ hrs}} = \frac{x \text{ miles}}{11 \text{ hrs}}$$

$$\frac{91 \times 11}{3} = 334 \text{ miles}$$

Proportion to Percentage

12/12

To find the percentage of a proportion, divide the proportion by the whole and move the decimal point. Example: What is the percentage for 30 of 50? Divide 30 by 50 and move the decimal point to the right 2 places and append the percent sign: $30 \div 50 = 0.6$ When you move the decimal point to the right by 2 places and add the percent sign, you have 60%

Use the same method to find to solve the problems below.

5. 50 of 100 = 50 %

15. 12 of 32 = 37.5 %

6. 25 of 100 = 25 %

7. 75 of 100 = 75 %

17. 16 of 50 = 32 %

8. 35 of 40 = 87.5 %

9. 30 of 60 = 50 %

19. 10 of 10 = 100 %

20. 10 of 100 = 10 %

Percentage Practice

To find the percent of a number, change the percent to a decimal and multiply.

Example: What is 30% of 50? Convert the percentage to a decimal by moving the decimal point two places to the left and remove the percent sign: $30\% = .30$ You then multiply $.30 \times 50$ to find the percent: $.30 \times 50 = 15$ 15 is 30% of 50.

Use the same method to solve the problems below.

1. The Sweater Shack is offering a 20% discount on sweaters. If the regular price of a sweater is \$15.00, what is the discount? \$3.00 Subtract the discount you found from the regular price to find the sale price. \$12.00
2. There are 30 students in Mrs. Jones class. Twenty percent of the students received an A on the last math test. How many students received an A? 6
3. Your parents took your family out to dinner. Your parents wanted to give the waiter a 15% tip. If the total amount of the dinner was \$42.00, what should be paid to the waiter as a tip? \$6.30
4. Jean Junction is selling jeans at 15% off the regular price. The regular price is \$25.00 per pair. What is the discount? \$3.75