Unit 2 Test Review: Rational Number and Percent Operations

1. The length of a rectangular park is $\frac{7}{8} $mile. If the area of the park is $\frac{3}{5}$ square mile, what is the width of the park? (Hint: *A = bh*)
2. a. Given the expression below, **including the final factor (*A*),** what will the sign of the product be? Justify your answer.

$$-4 ×\left(-\frac{8}{9}\right)× 2.78 × \left(1\frac{1}{3}\right)× \left(-\frac{2}{5}\right)× \left(-6.2\right) × \left(-0.2873\right)× \left(3\frac{1}{11}\right)× A$$

 b. Give a value for *A* that would result in a positive value for the expression.

 c. Give a value for *A* that would result in a negative value for the expression.

1. Evaluate the expression below using the properties of operations.

$$5 ÷\left(-\frac{1}{2}\right)× 4 ÷\left(-1\right)× \left(-3\right)÷ \frac{1}{4}$$

1. a.Tom’s truck used 15 gallons of gas to travel 300 miles. How many miles did his truck travel per gallon of gas?

 b. It cost Tom $44.88 to purchase the gas. How much did he pay for each gallon?

1. Which expression is modeled by the diagram shown below? **Show work to support your answer**.

$$2\frac{1}{2}$$

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ | $$\frac{1}{4}$$ |

|  |
| --- |
| A $\frac{1}{4}÷2\frac{1}{2}$ |
| B $2\frac{1}{2}÷\frac{1}{4}$ |
| C $2÷\frac{1}{2}$ |
| D $\frac{1}{2}÷2$ |

1. Of the 40 students on the Milwee Middle School soccer team, 10% also play on a travel team. How many of the students on the middle school team also play on a travel team?
2. a. If an item is discounted 20%, the sale price is what percent of the original price?

b. If the original price of the item is $400, what is the dollar amount of the discount?

. c. How much is the sale price?

1. A sweater is regularly $32. It is 25%$ $off the original price this week. Use a percent proportion to solve the following.
	1. Would the amount the shopper saved be considered the part, whole, or percent?
	2. How much would a shopper save by buying the sweater this week? Show two methods for finding your answer.
2. The cost of an Orlando Magic t-shirt is $24.00. The local sporting goods store sells it for $30.00. Find the percent increase.
3. A $300 savings bond earns simple interest at the rate of 2% each year. The interest is paid at the end of every month. How much interest will the bond have earned after three months?