4 Family Letter

Chapter Resources

Dear Parent or Guardian:

"When am I ever going to use this stuff?" Students in math classes often ask this question. Too often, math seems to be a series of procedures that one learns to solve a particular type of problem—without having any application to the real world. In our math class, however, we try to help students realize and appreciate the importance of math in their daily lives.

In **Chapter 4, Proportions and Similarity,** your child will learn about ratios, rates, proportions, and proportional and nonproportional relationships. Your child will also learn about similar polygons, dilations, scale drawings and models, indirect measurement, and rates of change. In addition, your child will learn to solve problems by drawing a diagram. In the study of this chapter, your child will complete a variety of daily classroom assignments and activities and possibly produce a chapter project.

By signing this letter and returning it with your child, you agree to encourage your child by getting involved. Enclosed is an activity you can do with your child that practices how the math we will be learning in Chapter 4 might be tested. You may also wish to log on to **www.msmath3.com** for self-check quizzes and other study help. If you have any questions or comments, feel free to contact me at school.

Sincerely,

Signature of Parent or Guardian _____ Date _____

4 Family Activity

State Test Practice

Fold the page along the dashed line. Work each problem on another piece of paper. Then unfold the page to check your work.

1. Determine if the following is a proportional relationship.

SOCK SALE!

One pair $2.50 or 3 for $5.00

Is the above relationship proportional? How do you know?

A No; $\dfrac{1}{\$2.50}$ does not equal $\dfrac{3}{\$5.00}$

B No; $\dfrac{1}{\$2.50}$ does not equal $\dfrac{\$5}{3}$

C Yes; $\dfrac{1}{\$2.50}$ is equal to $\dfrac{3}{\$5}$

D This cannot be determined.

2. Triangle ABC is similar to triangle DEF.

If the area of triangle ABC is 67.5 square millimeters, what is the height of triangle DEF?

A 5 millimeters

B 5 square millimeters

C 3 millimeters

D 3 square millimeters

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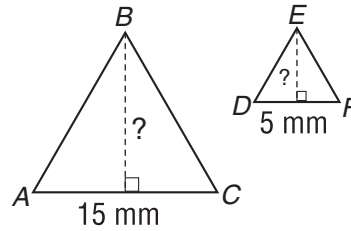
Solution

1. *Hint: To be proportional, the ratios being compared must be equal, or in this case, the cost of each pair of socks must be the same at regular price and sale price.*

In order for the relationship to be proportional, the ratio of the number of pairs of socks for each price must be equal. $\dfrac{1}{\$2.50}$ is the ratio of the number of pairs of socks to the cost at the regular price. If you bought $5 worth of socks at the regular price, you would only get two pair. Since you can get 3 pair for $5 at the sale price, the ratios are not equal, and therefore the relationship is not proportional.

The answer is **A**.

Solution

2. *Hint: Use the area of triangle ABC to find the height $(A = \dfrac{1}{2}bh)$.*
When triangles are similar, their sides are proportional.

$$A = \dfrac{1}{2}bh$$

$67.5 = \dfrac{1}{2}(15)h \qquad$ $A = 67.5, b = 15$

$67.5 = 7.5h \qquad$ Multiply.

$9 = h \qquad$ Divide each side by 7.5

The linear measures in the two triangles are proportional.

$\dfrac{5 \text{ mm}}{15 \text{ mm}} = \dfrac{h}{9} \quad \begin{array}{l}\text{height of } \triangle DEF \\ \text{height of } \triangle ABC\end{array}$

$h = 3$

The answer is **C**.