

## Family Letter

### Dear Parent or Guardian:

It is very important that we learn about all real numbers. Not all of the numbers we encounter in life are integers, decimals, or fractions. Even in construction, sports, and art, numbers are not always "nice and neat." Knowing how to find square roots, how to apply the Pythagorean Theorem are skills that we can use to help us deal with all real numbers.

In **Chapter 3, Algebra: Real Numbers and the Pythagorean Theorem**, your child will learn how to find and estimate square roots, to identify and classify real numbers, and to use the Pythagorean Theorem. Your child will also learn how to draw Venn diagrams to help solve problems and how to find the distance between two points on a coordinate plane. In this chapter, your child will complete a variety of daily classroom assignments and activities and possibly 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 also relates the math we will be learning in Chapter 3 to the real world. You may also wish to log on to the **Online Study Tools** for self-check quizzes, Parent and Student Study Guide pages, and other study help at [www.msmath3.net](http://www.msmath3.net). If you have any questions or comments, feel free to contact me at school.

Sincerely,

Signature of Parent or Guardian \_\_\_\_\_ Date \_\_\_\_\_

## Family Activity

### Cross-Examine

Work with a family member to answer the following questions. If the problem refers to an object that you do not have, feel free to substitute another object that can be represented by a right triangle or a rectangle. The Pythagorean Theorem states that for a right triangle,  $a^2 + b^2 = c^2$ , where  $a$  and  $b$  are the lengths of the legs of the triangle and  $c$  is the length of the hypotenuse.

1. Measure the height and width of a computer screen at home or at school. Use the Pythagorean Theorem to calculate the length of the diagonal of your screen. For example, if the height of the screen is 8 inches and the width is 11 inches, then:

$$c^2 = 8^2 + 11^2$$

$$c^2 = 185$$

$$c = \sqrt{185}$$

$$c \approx 13.6$$

The length of the diagonal is 13.6 inches.

Measure the length of the diagonal. How does the measured length compare with the length you calculated above?

2. Measure the height and width of a television screen. Use the Pythagorean Theorem to calculate the length of the diagonal of your screen.

Measure the length of the diagonal. How does the measured length compare with the length you calculated above?

3. Measure the height and width of your favorite framed picture. Use the Pythagorean Theorem to calculate the length of the diagonal of the picture frame.

Measure the length of the diagonal. How does the measured length compare with the length you calculated above?