

Math Test
Grade 8

1. A $\frac{7}{16}$ inch-long nail is used in a construction project. What is the length of the nail written as a decimal?
- a. 0.4375
 - b. 2.2857
 - c. 0.5
 - d. 0.1875

2. Solve $x^2 = \frac{9}{49}$
- a. $\frac{3}{49}$
 - b. $\pm \frac{3}{7}$
 - c. $\pm \frac{9}{7}$
 - d. $\pm \frac{3}{49}$

3. There are 26.2 miles in a marathon. What is this number written as a fraction?
- a. $26 \frac{2}{5}$ miles
 - b. $26 \frac{2}{\text{miles}}$
 - c. $26 \frac{1}{5}$ miles
 - d. 26 miles

4. The average score on a math test was $85.\bar{1}$. Write the average score as a fraction.
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5. A baseball pitcher has pitched $56 \frac{2}{3}$ innings this season. What is the number of innings written as a decimal?

6. The $\sqrt{2}$ is between 1.4 and 1.5. How could you find a better estimate of $\sqrt{2}$?
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7. Find a better estimate of $\sqrt{2}$. Draw a number line. Locate and label your estimate on the number line.

$\sqrt{2}$ is between _____ and _____, so $\sqrt{2}$ _____

8. Label each number rational or irrational.

$\frac{1}{3}$ _____ -15.3 _____ $11\frac{1}{4}$ _____ $\sqrt{5}$ _____

9. What is the difference between a rational and an irrational number?

10. An artist wants to frame a painting with an area of 400 square inches. He needs to know the length of wood to cut for each side in order to make a frame for the painting.



a. If x is the length of one side of the square, what equation can you set up to find the length of a side?

b. Solve the equation you wrote in part a. How many solutions does it have?

c. Do all the solutions you found in part b make sense given the context of this problem? Explain your answer.