ADAPTED NJDOE ASSESSMENT

GRADE 8

(To be administered after NPS Grade 8 Scope and Sequence Unit 1)

Assessed Standards:

- 8.NS.1
- 8.NS.2
- 8.EE.2
- 8.G.6
- 8.G.7
- 8.G.8

Name _____ Period _____ Date _____

Grade 8 Unit 1

For multiple-choice questions, circle the best answer.
For all other questions, respond in the space provided.

1. Classify each number as rational or irrational by checking the appropriate box in the table below.

Number	Rational	Irrational
$\frac{5}{7}$		
2π		
$\sqrt{2}^{\,2}$		

2. Which of the following is equivalent to $0.\overline{13}$?

a. $\frac{1}{8}$

b. $\frac{13}{100}$

c. $\frac{13}{99}$

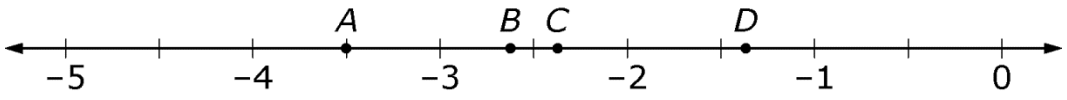
d. $\frac{1}{3}$

3. The number 0.1010010001K is formed by continuing the decimal indefinitely with an additional 0 in each successive group of zeros separated by a 1. Is 0.1010010001K a rational number or an irrational number? Explain your reasoning.

4. Is the number $\sqrt{169}$ a rational number or an irrational number? Explain your reasoning.

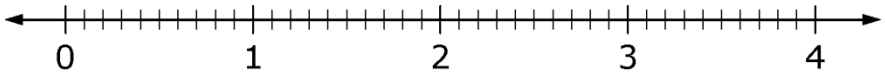
5. The number $\sqrt{136}$ is approximately how many times $\sqrt{33}$? Give your answer to the nearest integer.

6. Which of the following points on the number line below best approximates the value of $-\sqrt{7}$?

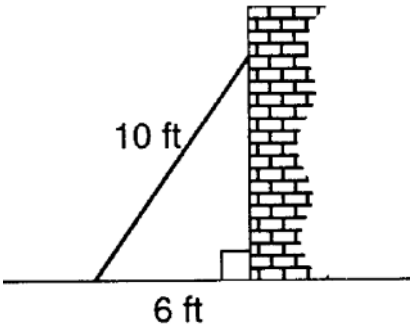


a. *A*
b. *B*
c. *C*
d. *D*

7. Plot the numbers 2.5, $\sqrt{8}$, $\frac{20}{9}$, and $\frac{p}{2}$ on the number line below. Label each point with the number given.



8 . A wall is supported by a brace 10 feet long, as shown in the diagram below. If one end of the brace is placed 6 feet from the base of the wall, how many feet up the wall does the brace reach?



A. 4 feet

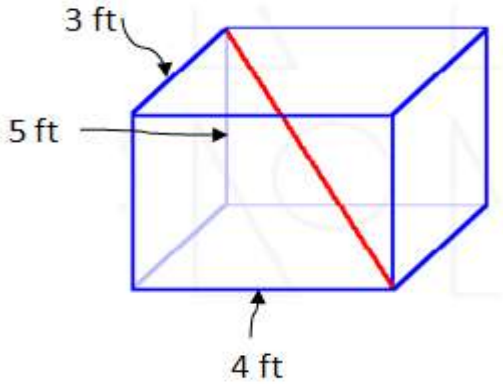
B. 7 feet

C. 8 feet

D. 9 feet

9 . We have a wooden box that measures 5 ft. by 4 ft. by 3 ft.:

What is the longest straight pole, that you can fit inside the box?



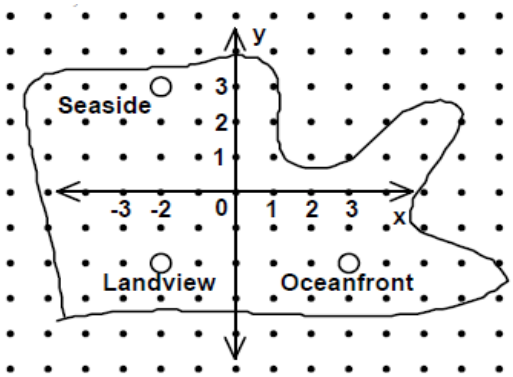
A. 5 feet

B. 7 feet

C. $\sqrt{41}$ feet

D. $\sqrt{50}$ feet

10. Use the map shown to find the distance from Oceanfront to Seaside. If each unit on the grid represents 5 miles, which represents the actual distance?



A. $5 \times \sqrt{10}$ miles

B. $5 \times \sqrt{20}$ miles

C. $5 \times \sqrt{25}$ miles

D. $5 \times \sqrt{50}$ miles

11. All of the following side lengths can form a right triangle except

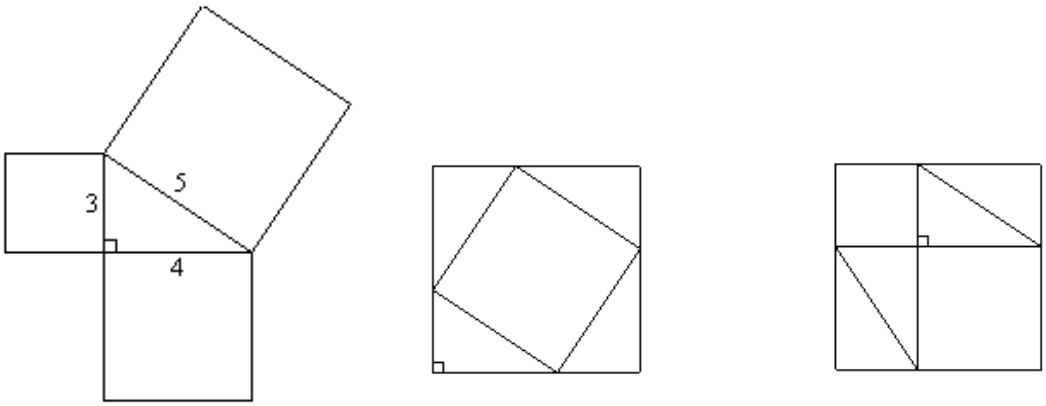
A. 12 mm, 16 mm, 20 mm

B. 24 mm, 32 mm, 40 mm

C. 6 mm, 8 mm, 10 mm

D. 13 mm, 16 mm, 20 mm

12.



The first square is made from 4 copies of the triangle and the square from the side that equals 5. The second square is made from 4 copies of the triangle and the squares from the sides that equal 3 and 4.

Do the two squares have the same area? Explain.

A. No, the second one has more pieces.

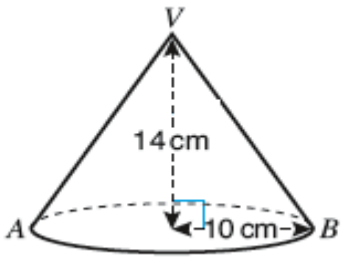
B. Yes, they look the same size.

C. No, the first one has a bigger square in it.

D. Yes, in both squares the length of each side is 7, the sum of the lengths of the legs of the right triangle, so the area of each square is 49 square units.

13. The base of the cone shown is horizontal. The line *AB* is a diameter of the base and the vertex, *V*, of the cone vertically above the centre of the base. The lines *VA* and *VB* are called slant heights of the cone.

Find the length of the slant height, *VB*.



A. $\sqrt{4}$

B. $\sqrt{24}$

C. $\sqrt{69}$

D. $\sqrt{296}$