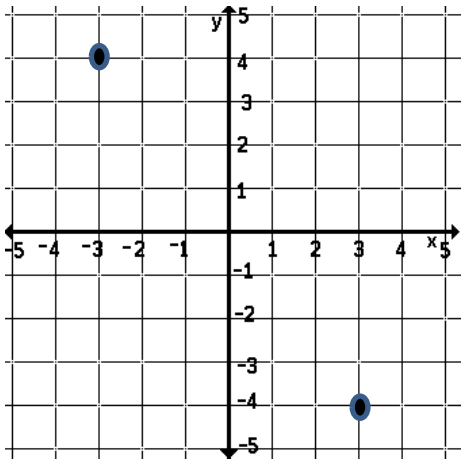
MCC8.G. 6,7,8: **Name**_____

Pythagorean Theorem – Review

1. A 12-foot ladder is leaning against the wall of the building. The base of the ladder is 3 feet from the base of the building. At what height does the ladder reach on the building?

2. Find the distance between the two points.



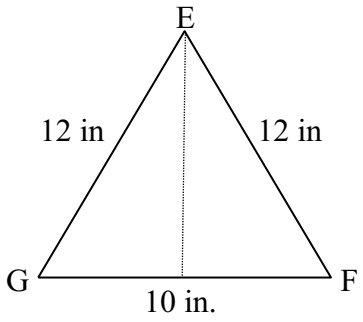
3. Find the distance between the points (3, 5) and (0, -6).

4. Two joggers run 3 miles north and then 12 miles west. What is the shortest distance, to the *nearest tenth* of a mile, they must travel to return to their starting point?

5. Circle all of the rational numbers?

$\frac{\pi}{2}$ 5.61 ½ 19 $\sqrt{81}$ 2.154125142365178…. $\sqrt{125}$ π $\frac{3\pi}{6\pi}$ .21

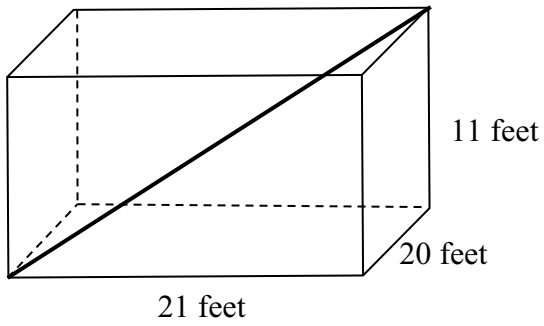
6. What is the area of ΔEFG?



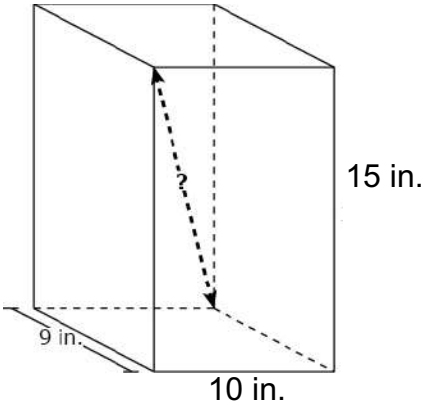
7. Given the length of the sides of a triangle, which of the following is a right triangle? Explain your reasoning. Show your WORK!!

a. 5, 12, 13 b. 20, 12, 15 c. 8, 10, 12 d. 3, 4, 5

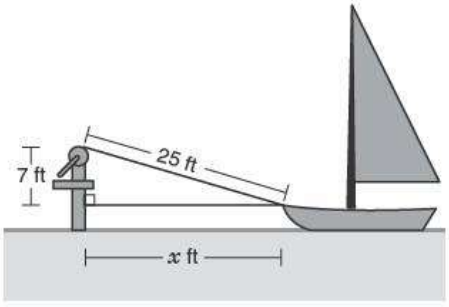
8. A fly was sitting on the ground in the front left corner of your classroom. He flew to the ceiling in the opposite corner of the room. How far did he fly if the room is 21 feet by 20 feet by 11 feet?



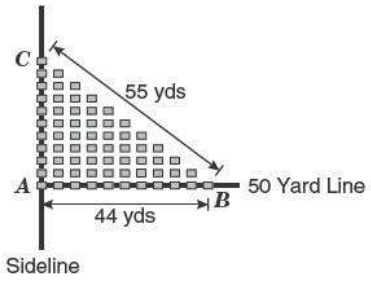
9. The picture shown represents a box shaped like a rectangular prism with its dimensions in inches (in.). What is the distance, in inches, from the left top front of the box to the right bottom back of the box represented by the dashed line containing the question mark?



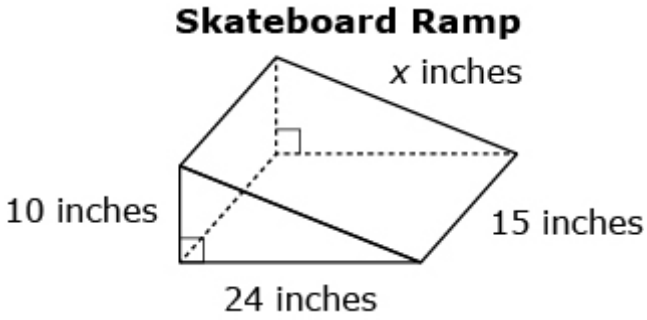
10. A windlass is used to pull a boat to the dock. The rope is attached to the boat at a point 7 feet below the level of the windlass. What is the distance from the boat to the dock when the rope is 25 feet?



11. Margo is designing a band formation for a halftime ceremony at a football game. This drawing shows where the band members will stand during the ceremony. How many yards apart are the band members standing at points ***A*** and ***C***?



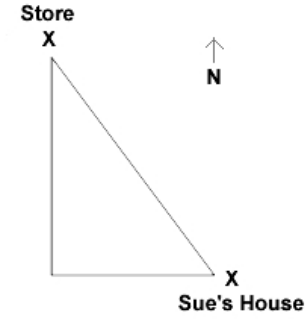
12. Ashley is making a skateboard ramp in the shape of a triangular prism. The figure shows three dimensions of the ramp. What is the missing dimension in inches, *x*, of Ashley's skateboard ramp?



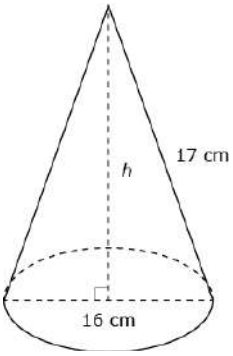
13. To secure a telephone pole, a steel cable will be attached to a ring on the pole 12 feet above the ground. If the cable is 15 feet long, how far from the base of the pole will the other end of the cable be anchored?

14. What is the length of a diagonal of a rectangle with length 10 and width 5?

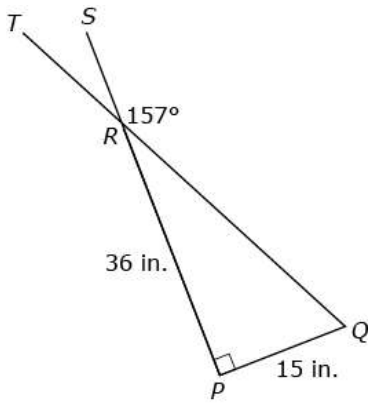
15. Sue left her house traveling due west towards the store. After 50 yards she traveled due north 120 yards to the store. When she left the store she cut across the field and traveled along a straight path. How much shorter was the path Sue took home then the path she took to the store?



16. A cone with a diameter of 16 centimeters and a slant height of 17 centimeters is shown. What is the height, *h*, of the cone in centimeters? Show your work.



17. Line segments *PS* and *QT* intersect at point *R*. Point *R* is a vertex of right triangle *RPQ*.

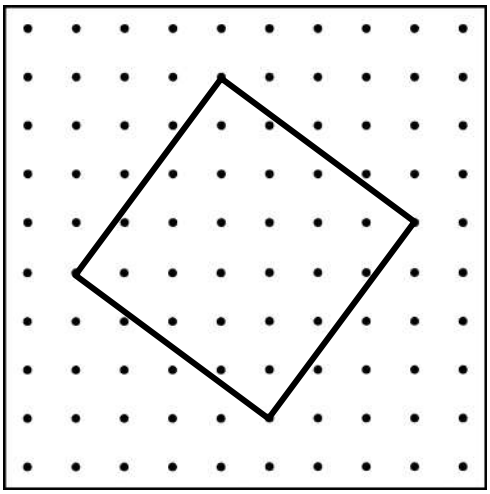


Part A

What is the measure of angle *PQR*?
Show your work and explain your answer.

Part B

What is the length of segment *RQ*?
Show your work.



18. Find the perimeter of the square. Round the intermediate values to the nearest tenth. Use the rounded values to calculate the next value. Round the final answer to the nearest tenth.