

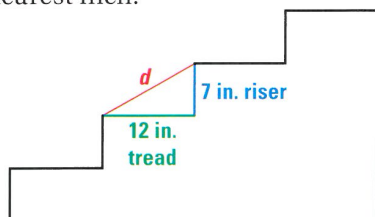
MIXED REVIEW of Problem Solving



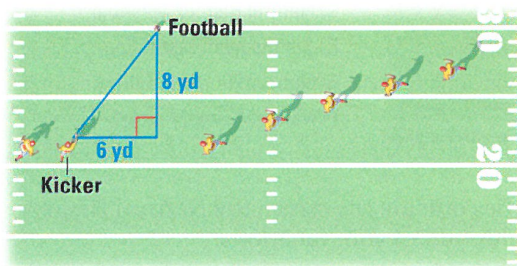
STATE TEST PRACTICE
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Lessons 11.4–11.5

1. **SHORT RESPONSE** Construction workers are building a staircase for a house. Use the drawing of the staircase to answer the following questions. Round each answer to the nearest inch.

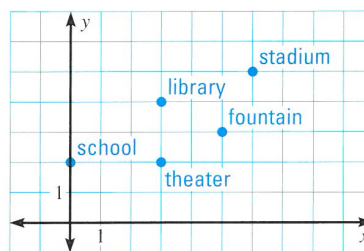


- Find the distance d between the edges of two consecutive steps.
 - Suppose the workers install a handrail that is as long as the distance between the front edge of the bottom step and the front edge of the top step. How long is the handrail? *Explain.*
2. **MULTI-STEP PROBLEM** At the start of a football game, the kicker on one team must kick the ball to the opposing team. To position himself for the starting kick, the kicker places a football on a tee, walks 8 yards behind the tee, then 6 yards to his left.

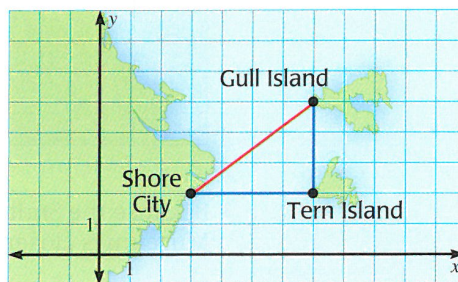


- What is the kicker's distance (in yards) from the football?
 - The kicker takes 11 strides to kick the ball. What is his average stride length? Round your answer to the nearest tenth of a foot.
3. **GRIDDED ANSWER** You go on a hiking trip. You walk 2 miles directly east and then 4 miles directly north. If you could walk in a straight path back to your starting point, how far would you have to walk? Round your answer to the nearest tenth of a mile.

4. **SHORT RESPONSE** A map of a town is shown. A student is at the school. The student's friend is at the stadium. They want to meet at the place that is closest to the midpoint of their locations. At which location should they meet? *Explain* how you found your answer.



5. **OPEN-ENDED** City planners want to build a rectangular park. They want the park to have a straight path that is 2500 feet long and connects opposite corners of the park. What are three possibilities for the length and width of the park?
6. **EXTENDED RESPONSE** One ferry makes round trips shown in red. A second ferry makes round trips shown in blue. The distance between consecutive grid lines represents 1 mile.



- Find the distance (in miles) of a round trip for the first ferry.
- Find the distance (in miles) of a round trip for the second ferry.
- Each stop the ferries make takes 10 minutes. The first ferry travels at 20 miles per hour, and the second ferry travels at 16 miles per hour. The ferries leave Shore City at the same time each day. When will they be back at the city at the same time? *Explain.*