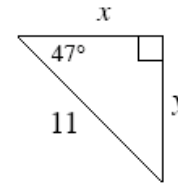


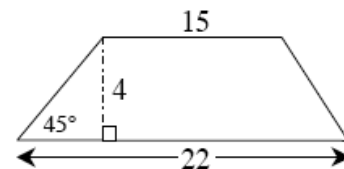
Review & Preview

- 5-7. You now have multiple trig tools to find missing side lengths of triangles. For the triangle at right, find the values of x and y . Your Triangle Toolkit might help. Which tools did you use?



- 5-8. Lori has written the conjectures below. For each one, decide if it is true or not. If you believe it is not true, find a **counterexample** (an example that proves that the statement is false).
- If a shape has four equal sides, it cannot be a parallelogram.
 - If $\tan \theta$ is more than 1, then θ must be more than 45° .
 - If two angles formed when two lines are cut by a transversal are corresponding, then the angles are congruent.
- 5-9. Earl hates to take out the garbage and to wash the dishes, so he decided to make a deal with his parents: He will flip a coin once for each chore and will perform the chore if the coin lands on heads. What he doesn't know is that his parents are going to use a weighted coin that lands on heads 80% of the time!
- What is the probability that Earl will have to do both chores?
 - What is the probability that Earl will have to take out the garbage, but will not need to wash the dishes?

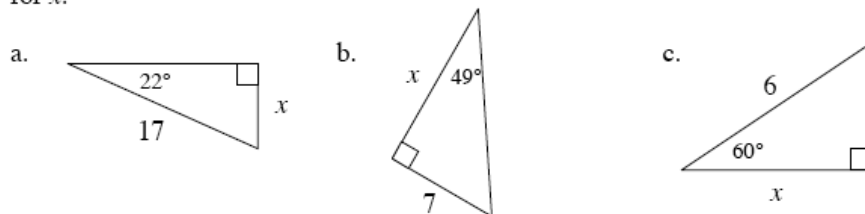
- 5-10. Copy the trapezoid at right on your paper. Then find its area and perimeter. Keep your work organized so that you can later explain how you solved it. (Note: The diagram is not drawn to scale.)



- 5-11. Solve each of the equations below for the given variable. Be sure to check your answers.
- $4(2x + 5) - 11 = 4x - 3$
 - $\frac{2m-1}{19} = \frac{m}{10}$
 - $3p^2 + 10p - 8 = 0$
 - $\sqrt{x+2} = 5$

Review & Preview

- 5-16. For each triangle below, write an equation relating the **reference angle** (the given acute angle) with the two side lengths of the right triangle. Then solve your equation for x .



- 5-17. While shopping at his local home improvement store, Chen noticed that the directions for an extension ladder state, “*This ladder is most stable when used at a 75° angle with the ground.*” He wants to buy a ladder to paint a two-story house that is 26 feet high. How long does his ladder need to be? Draw a diagram and set up an equation for this situation. Show all work.

- 5-18. Kendra has programmed her cell phone to randomly show one of six photos when she turns it on. Two of the photos are of her parents, one is of her niece, and three are of her boyfriend, Bruce. Today, she will need to turn her phone on twice: once before school and again after school.

- Choose a **model** (such as a tree diagram or generic area model) to represent this situation.
- What is the probability that both photos will be of her boyfriend?
- What is the probability that neither photo will be of her niece?

- 5-19. Lori has written the conjectures below. For each one, decide if it is true or not. If you believe it is not true, find a **counterexample** (an example that proves that the statement is false).

- If a triangle has a 60° angle, it must be an equilateral triangle.
- To find the area of a shape, you always multiply the length of the base by the height.
- All shapes have 360° rotation symmetry.

- 5-20. **Examine** the triangles at right. Are the triangles similar? If so, show how you know with a flowchart. If not, explain how you know they cannot be similar.

