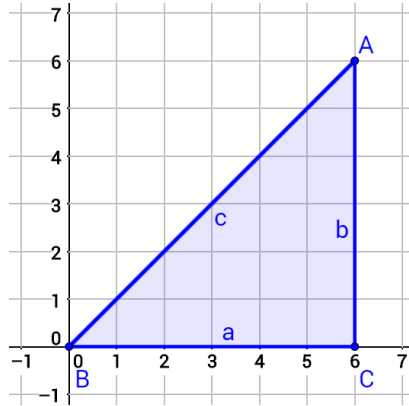


Special Right Triangles Investigation

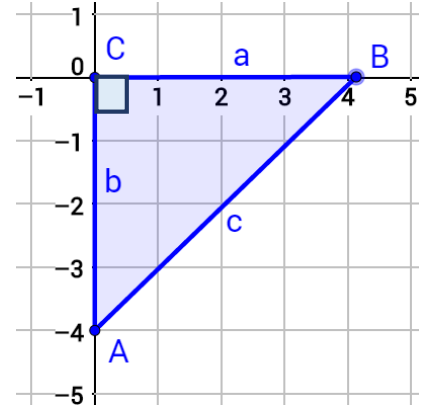
Name _____ Period _____

Find the measures of the indicated sides and angles. Simplify any radicals.

- BC = _____
 AC = _____
 $m\angle C =$ _____
 $m\angle A =$ _____
 $m\angle B =$ _____
 AB = _____



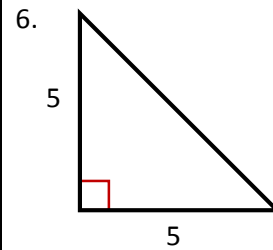
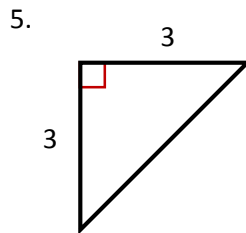
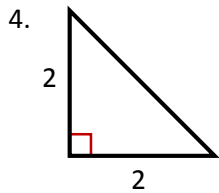
- a = _____
 b = _____
 $m\angle C =$ _____
 $m\angle A =$ _____
 $m\angle B =$ _____
 c = _____



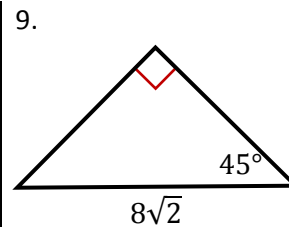
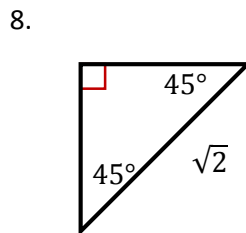
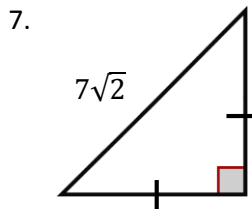
Hint: Use The Pythagorean Theorem

- Explain why you can't count the squares of a diagonal line to find the distance between points A and B. _____

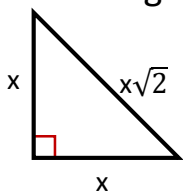
Find the hypotenuse of each of the isosceles right triangles.



An isosceles right triangle is also known as a 45-45-90 triangle. Find the lengths of the legs of the 45-45-90 triangles.



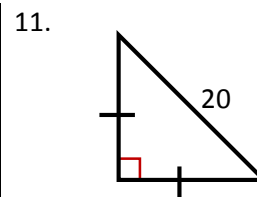
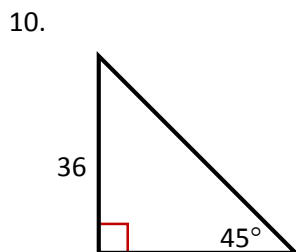
Isosceles Right (45-45-90) Triangle Shortcut



hypotenuse = leg \times _____

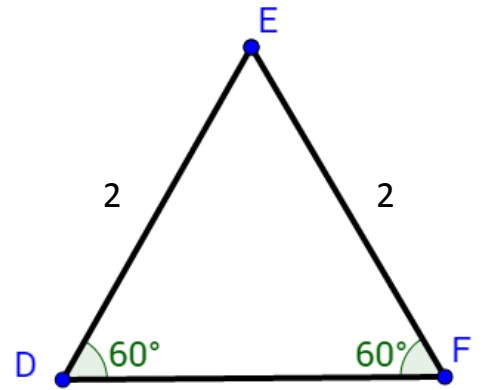
leg = hypotenuse \div _____

Use the shortcut to find the missing side of the triangles below.

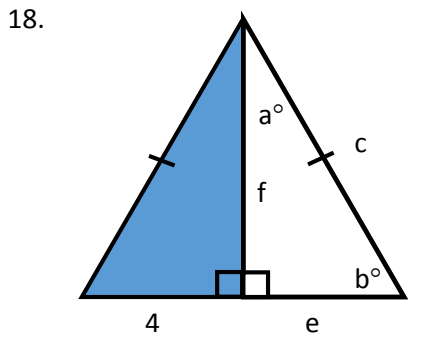


30-60-90 Right Triangle

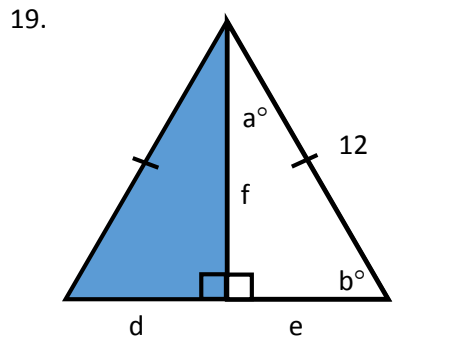
12. $\triangle DEF$ is an _____ triangle.
13. Draw an altitude from point E to \overline{DF} . Be sure to mark your right angle.
14. Label the place where your altitude meets \overline{DF} point C.
15. Find the $m\angle CEF$. _____
16. Find the length of \overline{CF} . _____
17. Use the Pythagorean Theorem to find EC. _____



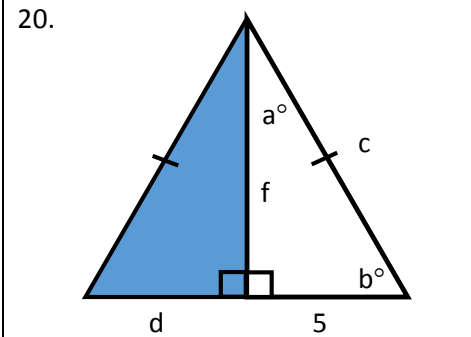
Find the missing sides and angles.



$a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$
 $e = \underline{\hspace{2cm}}$ $c = \underline{\hspace{2cm}}$
 $f = \underline{\hspace{2cm}}$



$a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$
 $d = \underline{\hspace{2cm}}$ $e = \underline{\hspace{2cm}}$
 $f = \underline{\hspace{2cm}}$



$a = \underline{\hspace{2cm}}$ $b = \underline{\hspace{2cm}}$
 $d = \underline{\hspace{2cm}}$ $c = \underline{\hspace{2cm}}$
 $f = \underline{\hspace{2cm}}$

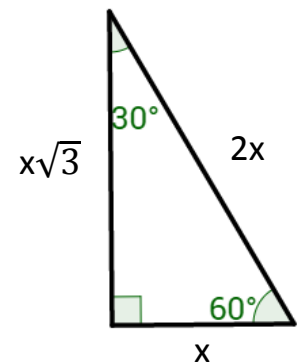
A 30-60-90 right triangle has two legs and a hypotenuse. The leg opposite the 30° angle is called the **short leg**. The leg opposite the 60° angle is called the **long leg**.

Hypotenuse = short leg \times _____

Long leg = short leg \times _____

Short leg = hypotenuse \div _____

Short leg = long leg \div _____



Find the missing sides.

