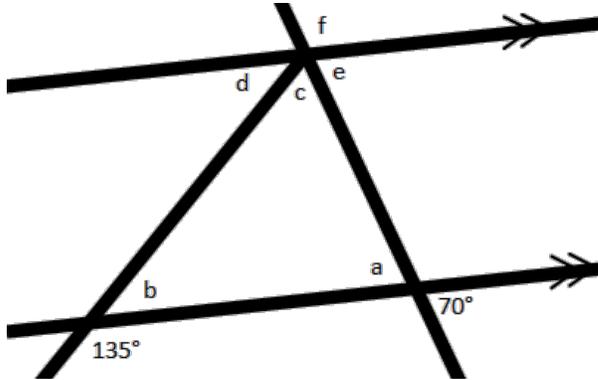


Shapes and Designs Test Review

1. Find the missing angles if $m\angle d = 45^\circ$



$m\angle a =$ _____

$m\angle b =$ _____

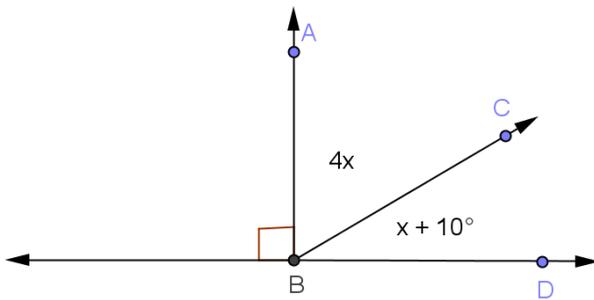
$m\angle c =$ _____

$m\angle d =$ _____

$m\angle e =$ _____

$m\angle f =$ _____

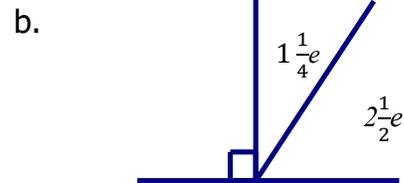
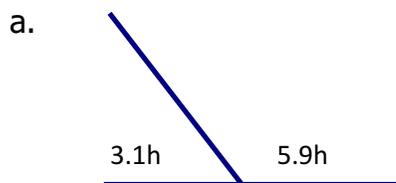
2. Solve for x and give the measurement of each angle.



$m\angle ABC =$ _____

$m\angle CBD =$ _____

3. Write and solve an equation to find the value of the variable in each figure.



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Shapes and Designs Test Review

4. Give the supplement of each angle.

a. 127° _____

b. 64.8° _____

c. $23\frac{3}{8}^\circ$ _____

5. Give the complement of each angle.

a. 67° _____

b. 12.7° _____

c. $46\frac{2}{7}^\circ$ _____

6. True or false: All squares are rectangles.

7. True or false: All parallelograms have two acute angles and two obtuse angles.

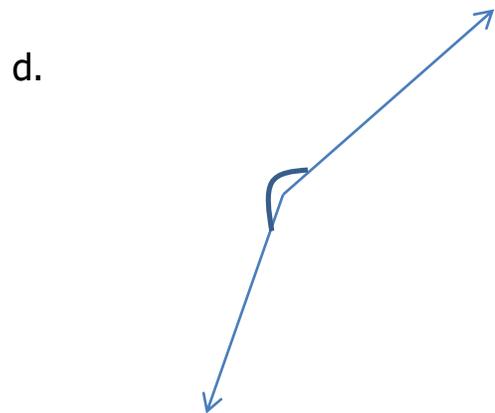
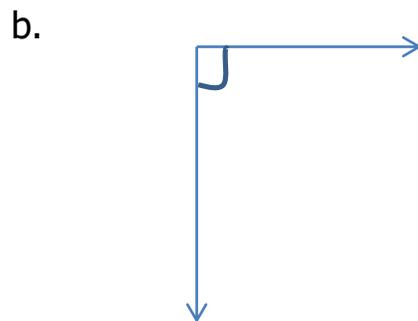
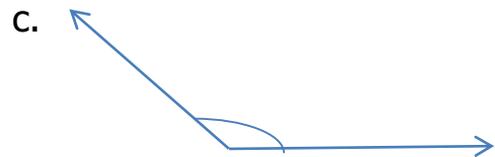
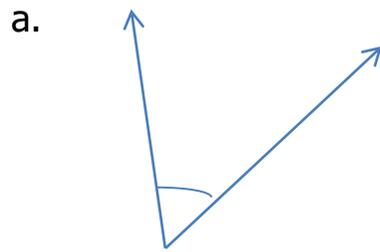
8. What is the measure of an angle that is one sixth of a straight angle? Show your work or explain your reasoning.

9. Draw and label equilateral triangle $\triangle ABC$ when side $BC = 2$ in.

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Shapes and Designs Test Review

10. An isosceles triangle has two 50° angles. What is the measure of the third angle?
11. One angle of an isosceles triangle measures 100° . What are the measures of the other two angles? Explain your reasoning.
12. Estimate the measure of the angles and state if they are acute, obtuse, right, straight, or none of the above.



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Shapes and Designs Test Review

13. Select **all** the conditions for which it is **possible** to construct a triangle.
- a. A triangle with angle measures 60° , 80° , and 80°
 - b. A triangle with side lengths 4 cm, 5 cm, and 6 cm
 - c. A triangle with side lengths 4 cm, 5 cm, and 15 cm
 - d. A triangle with side lengths 4 cm and 5 cm and a 50° angle
 - e. A triangle with angle measures 30° and 60° , and a 3 cm side length

Bonus Info

14. Which of these describes a **unique** polygon? Which ones are **impossible**?
- a. A triangle with angles 30° , 50° , and 100°
 - b. A quadrilateral with each side length 5 cm
 - c. A triangle with side lengths 6 cm, 7 cm, and 8 cm
 - d. A triangle with side lengths 4 cm and 5 cm and a 50° angle
 - e. A triangle with side lengths 4 cm, 6 cm, and 9 cm
 - f. A triangle with side lengths of 4 cm, 7 cm, and 2 cm
 - g. A triangle with angles 80° and 70°
15. A triangle has sides of length 7 cm, 4 cm, and 5 cm. How many **unique** triangles can be drawn that fit that description? Explain or show your reasoning.
16. Han draws a triangle with a 50° angle, a 40° angle, and a side of length 4 cm as shown. Is it possible to draw a different triangle with the same conditions? Why or why not?

