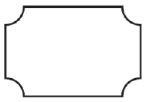
Math 1 **Name:** **KEY**

Unit 6.6 Convex and concave, types of polygons PRACTICE

Period: _____

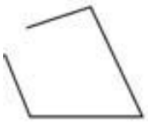
Tell whether the figure is a polygon. If it is not, explain why.
If it is a polygon, tell whether it is convex or concave and give the name of the polygon.

1. 

not polygon, curves

2. 

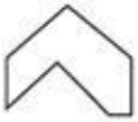
polygon, convex, pentagon

3. 

not polygon, not closed

4. 

polygon, concave, octagon

5. 

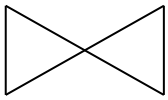
polygon, concave, heptagon

6. 

not polygon, curve

7. 

polygon, concave, decagon

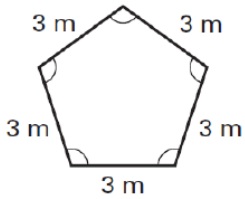
8. 

not polygon, crosses over side

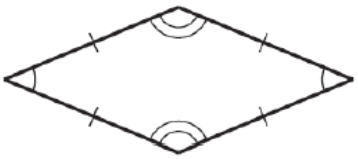
9. 

polygon, convex, quadrilateral

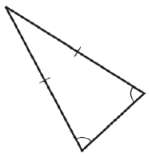
Classify the polygon by the number of sides. Tell which terms apply to the polygon: equilateral, equiangular, regular, or not regular.

10. 

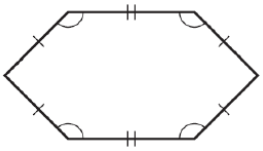
pentagon
equilateral
equiangular
regular

11. 

quadrilateral
equilateral
not regular

12. 

Triangle
not regular

13. 

hexagon
not regular

14. The lengths of two sides of a regular quadrilateral are represented by the expressions $8x - 6$ and $4x + 22$. Find the length of a side of the quadrilateral.

Each side length is 50

15. The expressions $(3x + 63)°$ and $(7x - 45)°$ represent the measures of two angles of a regular decagon. Find the measure of an angle of the decagon.

Each angle is $144°$

Tell whether the statement is always, sometimes, or never true.

16. A quadrilateral is convex. **sometimes**

17. An octagon is regular. **sometimes**

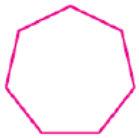
18. A triangle is concave. **never**

19. A regular polygon is equilateral. **always**

Draw a figure that fits the description. **Answer may vary**

20. A triangle that is not regular

21. A convex heptagon

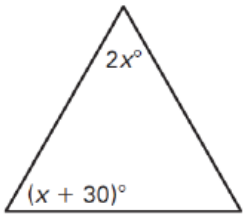


22. A concave pentagon

23. An equiangular quadrilateral that is not equilateral

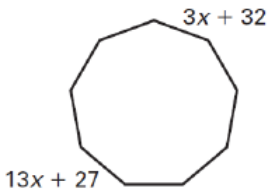
Each figure is a regular polygon. Find the value of x.

24.



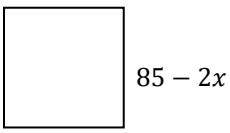
x = 30

25.



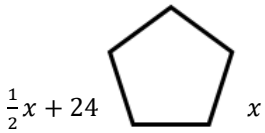
x = $\frac{1}{2}$

26.



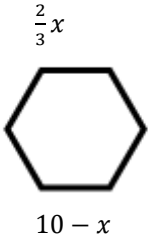
x = 15

27.



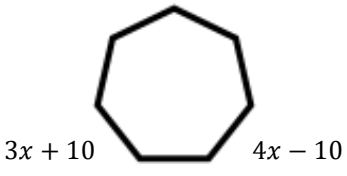
x = 48

28.



x = 6

29.



x = 20