

Name Key

Geometry Chapter 7 Practice Test

Period _____

1. If the sum of the angles of a polygon is 2520°. How many sides does it have?

$$\frac{(n-2)180}{180} = \frac{2520}{180}$$

$$n-2 = 14$$

$$n = 16$$

2. How many total degrees does a 42-gon have? What is the measure of each angle if it is regular? What is the exterior angle?

$$(42-2)180 = \frac{7200}{42} = 171.43^\circ$$

$$180 - 171.43 = 8.57^\circ$$

3. If an octagon has angles that measure 115°, 175°, 178°, 120°, 175°, 142°, x°, 4x°. What is x? What are the two angles?

$$(8-2)180 = 1080$$

$$5x + 905 = 1080$$

$$5x = 175$$

$$x = 35$$

$$35^\circ + 140^\circ$$

4. If you have a regular polygon and each angle is 162°. How many sides does it have?

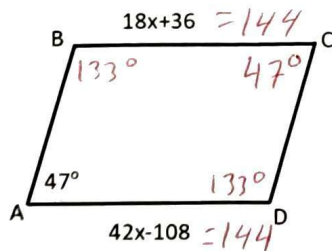
$$162n = (n-2)180$$

$$162n = 180n - 360$$

$$-18n = -360$$

$$n = 20$$

5. For parallelogram ABCD find x, \overline{AD} , \overline{BC} , $\angle B$, $\angle C$, $\angle D$.



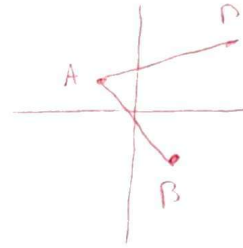
$$42x - 108 = 18x + 36$$

$$-18x + 108 = -18x + 108$$

$$\frac{24x}{24} = \frac{144}{24}$$

$$x = 6$$

6. Find the missing vertex for the parallelogram. A(-2,2) B(2,-4) C(?,?) D(4,4)

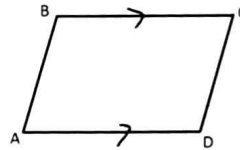


$$m_{A \rightarrow B} = +4, -6$$

$$(4,4) + (4,-6)$$

$$= (8, -2)$$

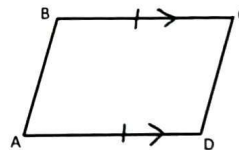
7. Are the following parallelograms?



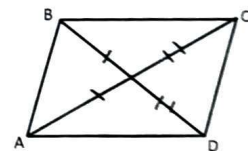
NO



Yes



Yes



NO

8. Is the following figure a rectangle, a rhombus, or a square? List all the possible options. A(-17,4) B(-11,4) C(-11,-3) D(-17,-3)

$$m_{AB} = \frac{4-4}{-11+17} = \frac{0}{6} = 0 \quad d = \sqrt{6^2 + 0^2} = 6$$

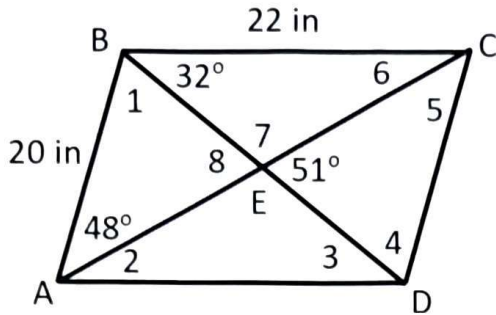
$$m_{BC} = \frac{4+3}{-11+11} = \frac{7}{0} = \text{und} \quad d = \sqrt{7^2 + 0^2} = 7$$

$$m_{CD} = \frac{-3+3}{-17+11} = \frac{0}{-6} = 0 \quad d = \sqrt{0^2 + 6^2} = 6$$

$$m_{AD} = \frac{4+3}{-17+17} = \frac{7}{0} = \text{und} \quad d = \sqrt{7^2 + 0^2} = 7$$

Rectangle

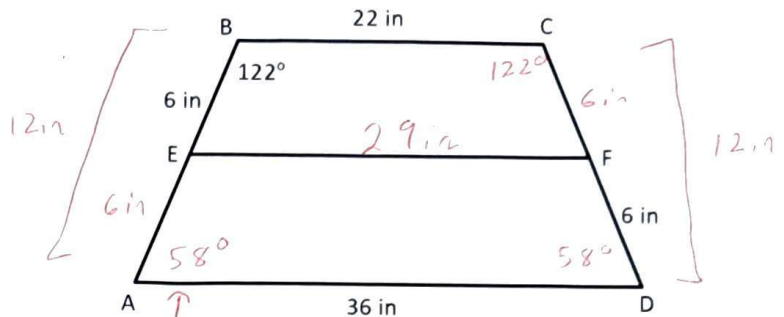
9. Fill in all the missing pieces of information for the parallelogram.



$\angle 1 = 81^\circ$ $\angle 2 = 19^\circ$
 $\angle 3 = 32^\circ$ $\angle 4 = 81^\circ$
 $\angle 5 = 48^\circ$ $\angle 6 = 19^\circ$
 $\angle 7 = 129^\circ$ $\angle 8 = 51^\circ$
 $\angle AED = 129^\circ$

$\overline{AD} = 22 \text{ in}$ $\overline{CD} = 20 \text{ in}$

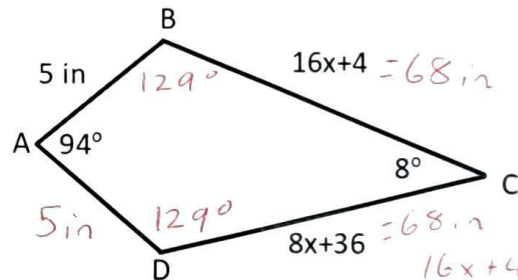
11. If \overline{EF} is the midsegment. Find the following. $\angle A, \angle C, \angle D, \overline{EF}, \overline{AE}, \overline{CD}$



$180 - 122$

$\text{Midseg} = \frac{1}{2}(22 + 36)$
 $= 29$

12. Find the missing angles and the perimeter for the following figure.



$360 = 2x + 102$
 -102 -102

$\frac{258}{2} = \frac{2x}{2}$

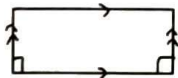
$129^\circ = x$

$16x + 4 = 8x + 36$
 $-8x - 4$ $-8x - 4$

$\frac{8x}{8} = \frac{32}{8}$

$x = 4$

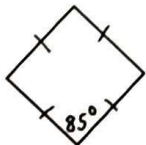
10. Give the most specific name for the following figures.



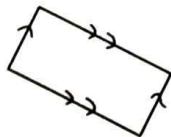
Rectangle



Square



Rhombus



Parallelogram

13. Find the length of the midsegment of the following trapezoid.

A(14,7) B(18,5) C(18,2) D(14,0)

$\text{Mid}_{AB} = \left(\frac{14+18}{2}, \frac{7+5}{2} \right)$
 $(16, 6)$

$\text{mid}_{CD} = \left(\frac{18+14}{2}, \frac{2+0}{2} \right)$
 $(16, 1)$

$d = \sqrt{(16-16)^2 + (6-1)^2} = \boxed{5}$

