

Chapter 6 Practice Test 1

Name _____

Tell the sum of the measures of the interior angles of the following shapes.

1. Hexagon = _____ 2. Octagon = _____ 3. Nonagon = _____

Figure 1

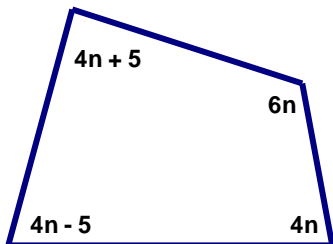


Figure 2

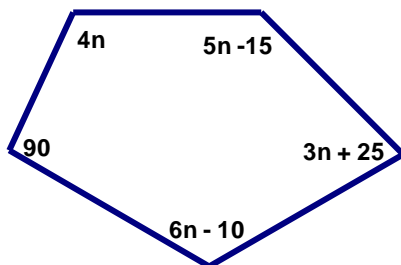
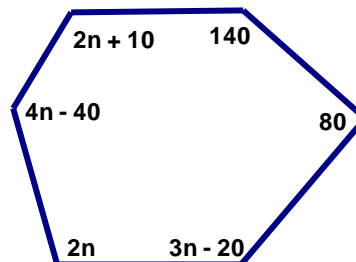


Figure 3



Find the value of n in the figures above.

4. Figure 1 = _____ 5. Figure 2 = _____ 6. Figure 3 = _____

7. How many degrees is each interior angle of a regular hexagon? _____

8. How many degrees is each interior angle of a regular octagon? _____

9. How many degrees is each interior angle of a regular pentagon? _____

10. How many degrees is each exterior angle of a pentagon? _____

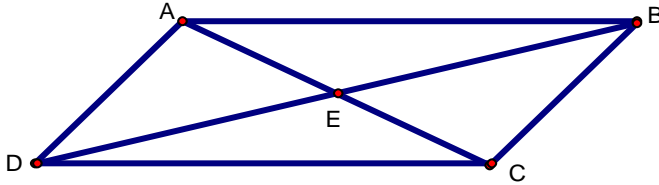
11. How many degrees is each exterior angle of an octagon? _____

12. The measure of an interior angle of a regular polygon is 108 degrees.
How many sides must this polygon have?

13. The measure of an interior angle of a regular polygon is 144 degrees.
How many sides must this polygon have?

14. I am planning to build a large flowerbed in the shape of a regular hexagon. I will use thick pieces of wood like railroad ties that are 8 feet in length. Once I have the first piece of wood put down, what interior angle should I make with the next piece of wood that I place down in order to make sure that I get a regular hexagon (remember that regular means all the angles will be the same along with the lengths, which you already know is 8 feet).

15. Consider the parallelogram below. Find the missing sides and angles listed below given that $EC = 14$ cm, $BC = 6$ cm, $\angle DAE = 70^\circ$, $\angle BCD = 110^\circ$



$AC =$ _____ $AD =$ _____ $\angle BAD =$ _____
 $\angle BAC =$ _____ $\angle BCA =$ _____ $\angle ACD =$ _____

Find the fourth missing point of parallelogram ABCD given the following points. Be careful!

_____ 16. $A = (0, 0)$ $B = (6, 0)$, $C = (9, 4)$ _____ 17. $A = (0, 0)$ $B = (9, 0)$, $C = (13, 7)$

_____ 18. $A = (2, 0)$ $B = (6, 0)$, $D = (2, 9)$ _____ 19. $A = (5, 2)$ $B = (13, 2)$, $C = (8, 9)$

_____ 20. If ABCD is a parallelogram with $\angle A = 7x$ and $\angle B = 3x - 20$, what is the measurement of $\angle C$?

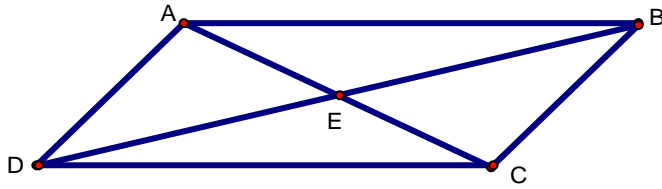
_____ 21. If ABCD is an isosceles trapezoid with $\angle A = 50^\circ$, what is $\angle C$?

_____ 22. Which of the following is not always true about a parallelogram?
 A. the diagonals bisect each other B. opposite sides are equal in length
 C. opposite angles are equal D. diagonals are perpendicular

_____ 23. Opposite angles are not always congruent in a
 A. rhombus B. parallelogram C. trapezoid D. rectangle

_____ 24. Diagonals are always perpendicular in a
 A. parallelogram B. trapezoid C. rhombus D. rectangle

Use the parallelogram below for questions 25-27.



- ____ 25. If $AE = 4n - 8$, $DE = 2n + 6$, and $CE = n + 4$ in the parallelogram above, what is the value of n ?
- A. -2 B. 2 C. 4 D. 7
- ____ 26. If $\angle ADC = 80^\circ$ in the parallelogram above, what is $\angle DCB$?
- A. 40° B. 80° C. 100° D. 120°
- ____ 27. If in the parallelogram above $DC = 3n + 20$, $BC = n + 10$, and $AB = 4n - 10$, what is n ?
- A. -5 B. $6\frac{2}{3}$ C. 30 D. None of the above

Figure 1

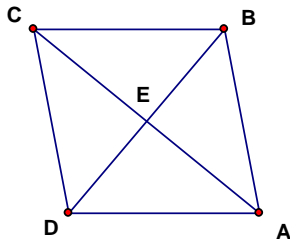


Figure 2

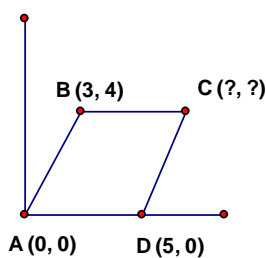


Figure 3

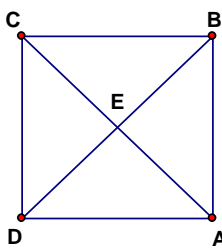
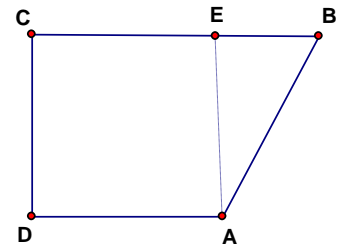


Figure 4



- ____ 28. In figure 1 above, ABCD is a rhombus. If $AC = 30$ cm and $BD = 40$ cm, what is the perimeter of ABCD?
- ____ 29. If in figure 2 ABCD is a rhombus, what are the coordinates for C?
- ____ 30. In figure 3, ABCD is a rectangle. If $AC = 50$ cm and $BC = 25\sqrt{2}$ cm, what is the length of \overline{DE} ?
- ____ 31. In figure 3, ABCD is a rectangle. If $AC = 50$ cm and $BC = 40$ cm, what is the length of \overline{DC} ?
- ____ 32. In figure 4, I want to cut a piece of granite for a countertop. I must have the countertop be a rectangle. If I am going to cut from C to E, what must true in order to make sure that the granite is rectangular?
- A. $AE = EB$ B. $AC = BD$ C. $EC = CD$ D. $DE = CA$

