

# 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

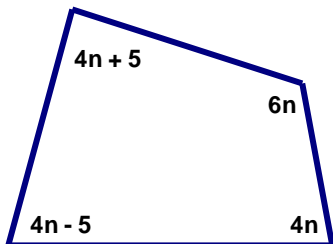


Figure 2

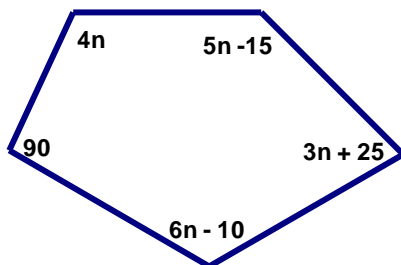
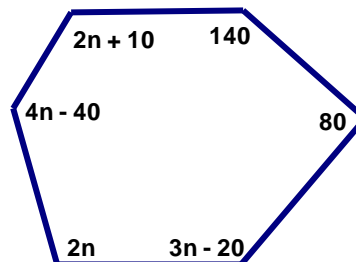


Figure 3



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?

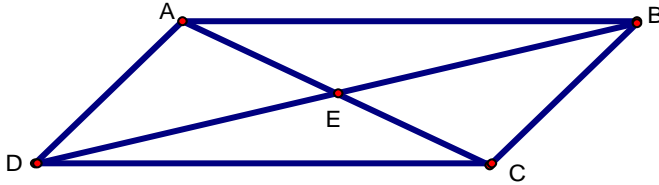
\_\_\_\_\_

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  $\angle C$  ?

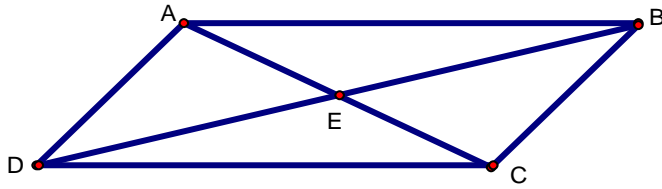
\_\_\_\_\_ 21. If ABCD is an isosceles trapezoid with  $\angle A = 50^\circ$ , what is  $\angle C$  ?

\_\_\_\_\_ 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.  $40^\circ$                       B.  $80^\circ$                       C.  $100^\circ$                       D.  $120^\circ$
- \_\_\_\_ 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

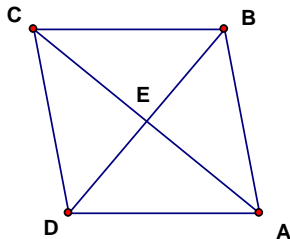


Figure 2

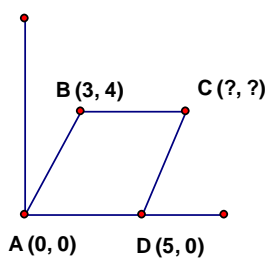


Figure 3

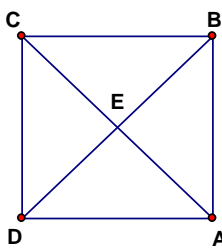
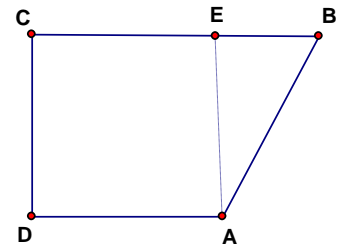


Figure 4



- \_\_\_\_ 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.  $DE = CA$

