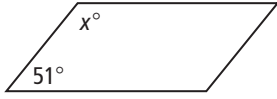**6-2** **Practice** *Form K*

Properties of Parallelograms

Find the value of *x* in each parallelogram.
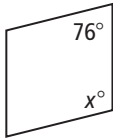
1.

$x°$

$51°$

To start, identify the relationship between the marked angles in the diagram.

The marked angles are consecutive angles. By Theorem 6-4, the angles are supplementary.

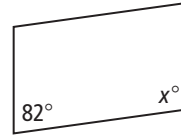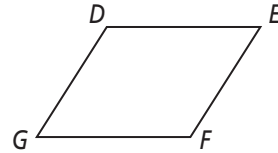Then write an equation: $\boxed{x} + 51 = 180$

2.

$76°$

$x°$

3.

$x°$ $154°$

4.

$82°$ $x°$

Algebra **Find the values of the variables in ▱*DEFG*.**

5. $DG = 2x + 2, EF = 3x - 3, DE = 3x + 1, GF = 2x + 6$

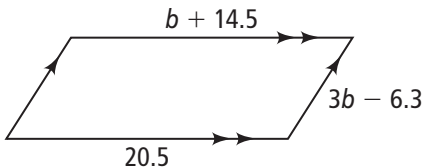**6.** $DG = 4a, EF = 5a - 6, DE = 3a + 2, GF = 2a + 8$

7. $DG = 2r + 3, EF = 3r - 3, DE = 2r + 6, GF = 4r - 6$

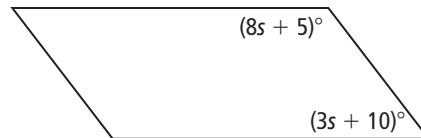**8.** $DG = 2t - 10, EF = t + 5, DE = t + 15, GF = 2t$

D   *E*

G   *F*

Algebra **Find the value of *b* in each parallelogram. Then find each side length or angle measure.**

9.

$b + 14.5$

$3b - 6.3$

20.5

10.

$(8s + 5)°$

$(3s + 10)°$

11. Name and draw the three special types of parallelograms.
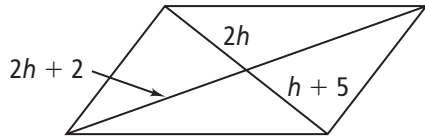
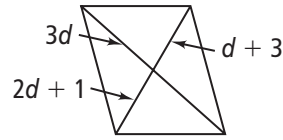**6-2** **Practice** (continued)   *Form K*

Properties of Parallelograms

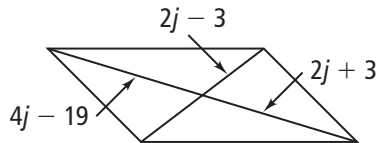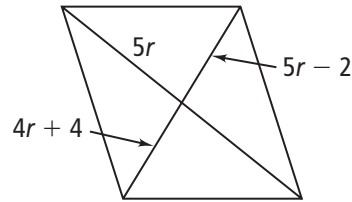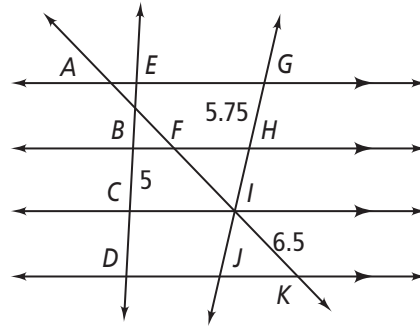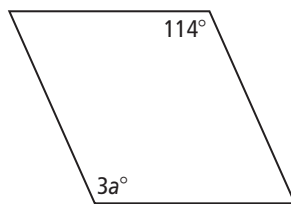**Algebra** **Find the value of each variable in each parallelogram.**

12.

2h

2h + 2

h + 5

13.

3d

d + 3

2d + 1

14.

2j − 3

2j + 3

4j − 19

15.

5r

5r − 2

4r + 4

In the figure, $GH = HI = IJ$. Find each length.

16. *EB*   **17.** *BD*

18. *AF*   **19.** *AK*

20. *CD*   **21.** *GJ*

A E G
5.75
B F H
C 5 I
D J 6.5
K

Find the value of *a* in each parallelogram.

22.

114°

3a°

23.

11a°

110°

24.

(3a − 5)°

40°
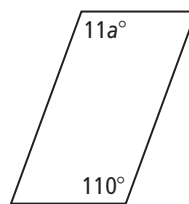
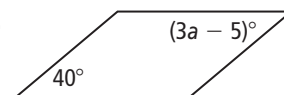**25.** The length of one side of a parallelogram is 3 more than twice the length of the adjacent side. The perimeter of the parallelogram is 30 cm. Find the lengths of the two adjacent sides of the parallelogram.

26. **Reasoning** A classmate draws a parallelogram for which one side is twice as long as the other. If one side is 26 units, what are all the possible lengths of the perimeter?