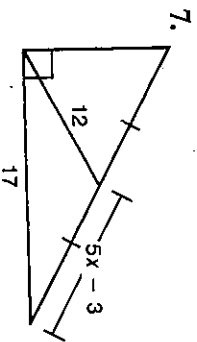## Practice 19
Special Quadrilaterals

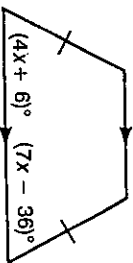Classify each statement as *always*, *sometimes*, or *never* true.

1. A parallelogram contains exactly two right angles. _never_

2. Each diagonal of a parallelogram bisects two angles of the parallelogram. _sometimes_

3. A rhombus with no right angles has congruent diagonals. _never_

4. The diagonals of a rhombus are perpendicular. _always_

5. A rectangle that is not a square has perpendicular diagonals. _never_

6. A quadrilateral with diagonals that are perpendicular is a parallelogram. _sometimes_
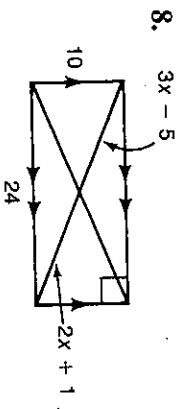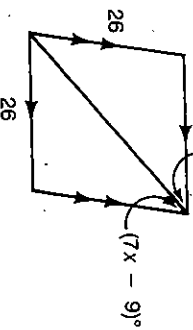
Find the value of *x*.
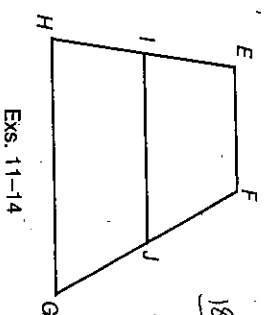
7.

12   17   5x – 3

$x =$ 3

8.   3x – 5

10   24

2x + 1

$x =$ 6

9.

(4x + 6)°   (7x – 36)°

$x =$ 14

10.

26   26

(5x + 5)°   (7x – 9)°

$x =$ 7

$\overline{IJ}$ is the median of trapezoid *EFGH*. Find the value of *x*.

EF	HG	IJ	x
11.	7	13	x	10
12.	$3\frac{1}{2}$	x	$5\frac{1}{4}$	7
13.	18.3	x	21.2	24.1
14.	9	x + 8	x	17

Exs. 11-14

Give the most descriptive name for quad. *ABCD*.

15. $\angle A \cong \angle C$ and $\angle B \cong \angle D$ Parallelogram

16. $\overline{AB} \cong \overline{BC} \cong \overline{CD} \cong \overline{DA}$ and $\angle A \cong \angle B$ Square

17. $AB \parallel DC, AD \cong BC$, and $DC > AB$ Isosceles Trapezoid

$\frac{9 + x + 8}{2} = x$

$17 + x = 2x$

$\frac{3.5 + x}{2} = 21.2$

$18.3 + x = 42.4$

$x =$

$\frac{3.5 + x}{2} = 5.25$

$3.5 + x = 10.5$