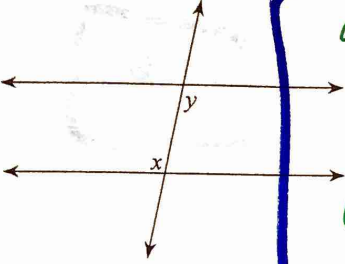
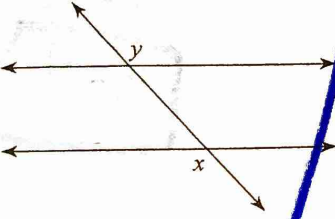
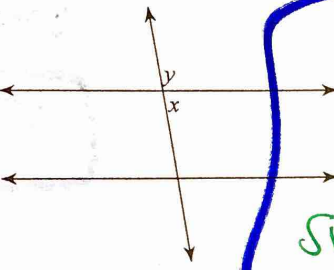
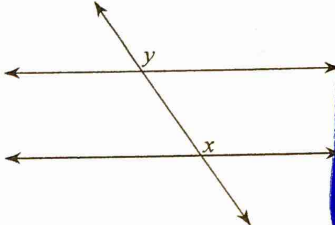


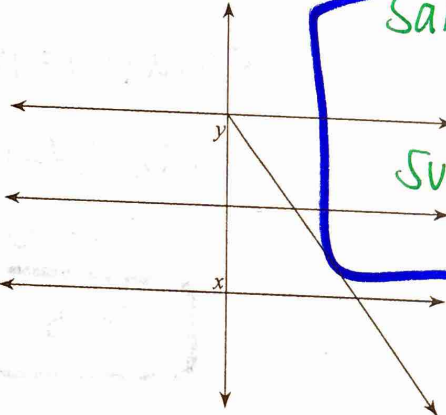
Identify each pair of angles as corresponding, alternate interior, alternate exterior, same-side interior, vertical, or linear pair. State whether the angles are congruent or supplementary.

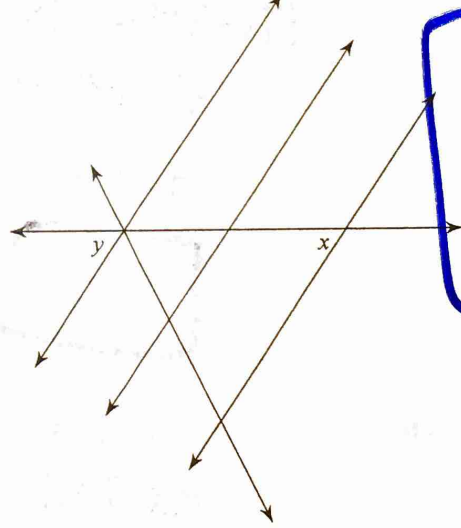
1)  alternate interior  
congruent

2)  alternate exterior  
congruent

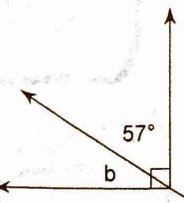
3)  linear pair  
supplementary

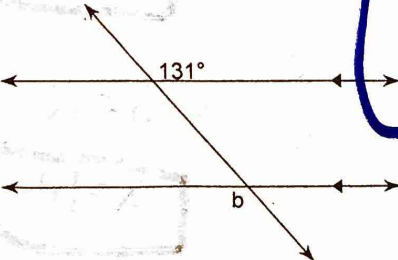
4)  corresponding  
congruent

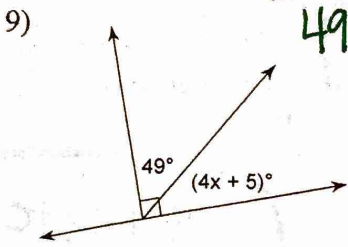
5)  same side interior  
supplementary

6)  corresponding  
congruent

Solve for the given variable.

7)   $b = 90 - 57$   
 $b = 33^\circ$

8)   $b = 131^\circ$

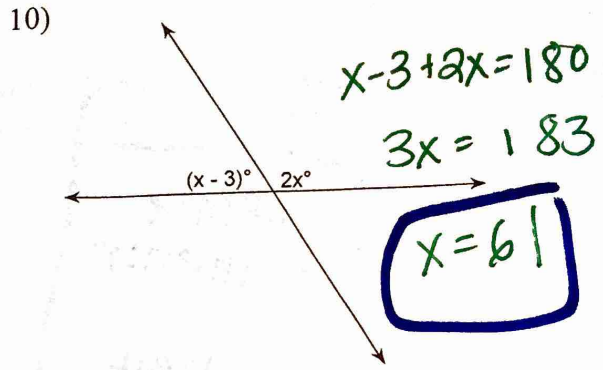


$$49 + 4x + 5 = 90$$

$$4x + 54 = 90$$

$$4x = 36$$

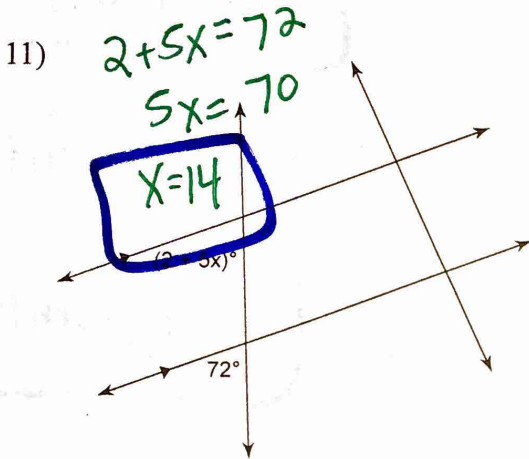
$$x = 9$$



$$x - 3 + 2x = 180$$

$$3x = 183$$

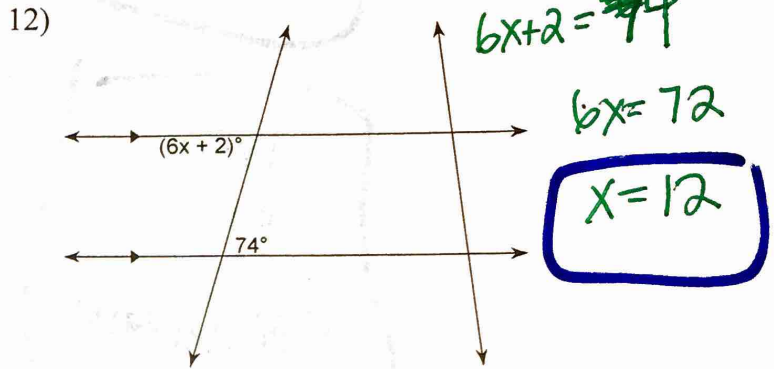
$$x = 61$$



$$2 + 5x = 72$$

$$5x = 70$$

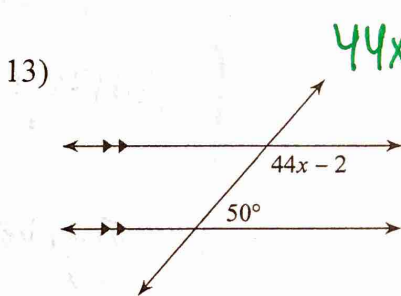
$$x = 14$$



$$6x + 2 = 74$$

$$6x = 72$$

$$x = 12$$

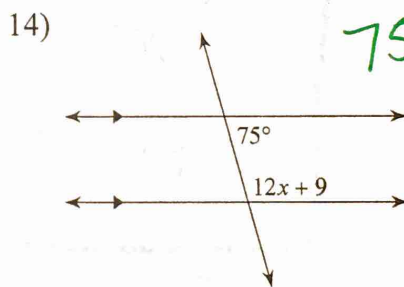


$$44x - 2 + 50 = 180$$

$$44x + 48 = 180$$

$$44x = 132$$

$$x = 3$$



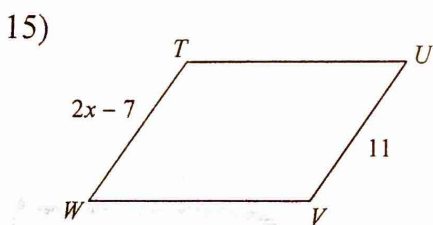
$$75 + 12x + 9 = 180$$

$$12x + 84 = 180$$

$$12x = 96$$

$$x = 8$$

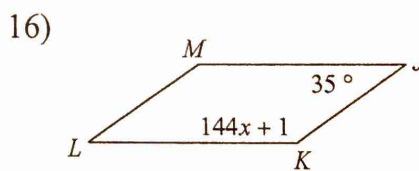
Solve for x. Each figure is a parallelogram.



$$2x - 7 = 11$$

$$2x = 18$$

$$x = 9$$

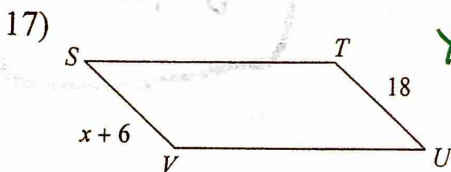


$$35 + 144x + 1 = 180$$

$$144x + 36 = 180$$

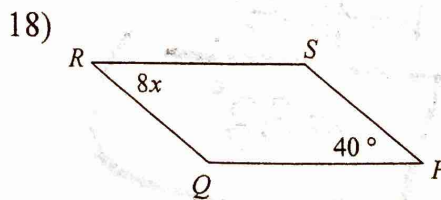
$$144x = 144$$

$$x = 1$$



$$x + 6 = 18$$

$$x = 12$$



$$8x = 40$$

$$x = 5$$

19)  $5x + 19 = 74$   
 $5x = 55$   
 $x = 11$

20)  $130 + 27 + 3x - 7 = 180$   
 $3x + 150 = 180$   
 $3x = 30$   
 $x = 10$

21)  $EP = 14$   
 $PG = 3x - 1$   
 $14 = 3x - 1$   
 $15 = 3x$   
 $x = 5$

22)  $UK = 11$   
 $MK = 2 + 5x$   
 $2(11) = 2 + 5x$   
 $22 = 2 + 5x$   
 $20 = 5x$   
 $x = 4$

23)  $UP = 8$   
 $PW = 2x - 4$   
 $8 = 2x - 4$   
 $12 = 2x$   
 $x = 6$

24)  $DX = 16$   
 $XF = x + 6$   
 $16 = x + 6$   
 $10 = x$

25)  $75 + 27 - 2 + 8x = 180$   
 $8x + 100 = 180$   
 $8x = 80$   
 $x = 10$

26)  $ZD = 13$   
 $BD = 4x + 6$   
 $2(13) = 4x + 6$   
 $26 = 4x + 6$   
 $20 = 4x$   
 $x = 5$

Find the measurement indicated in each parallelogram.

27) Find  $m\angle P$   
 $11x - 6 + 19x + 6 = 180$   
 $30x = 180$   
 $x = 6$   
 $m\angle P = 19(6) + 6$   
 $m\angle P = 120^\circ$

28) Find  $m\angle S$   
 $4x - 9 = 2x + 13$   
 $2x = 22$   
 $x = 11$   
 $m\angle R = 2(11) + 13$   
 $m\angle R = 35^\circ$   
 $m\angle S = 145^\circ$

29) Find  $m\angle X$   
 $9x - 5 + 9x + 5 = 180$   
 $18x = 180$   
 $x = 10$   
 $m\angle X = 9(10) - 5$   
 $m\angle X = 85^\circ$

30) Find  $m\angle Y$   
 $17x - 3 = 16x$   
 $x = 3$   
 $m\angle V = 16(3)$   
 $m\angle V = 48^\circ$   
 $m\angle Y = 132^\circ$