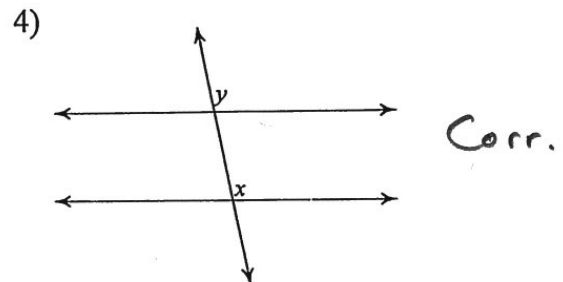
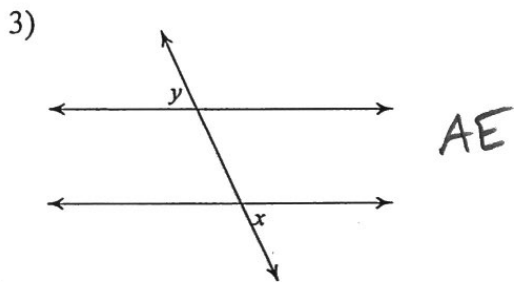
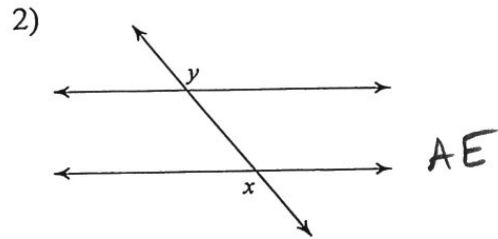
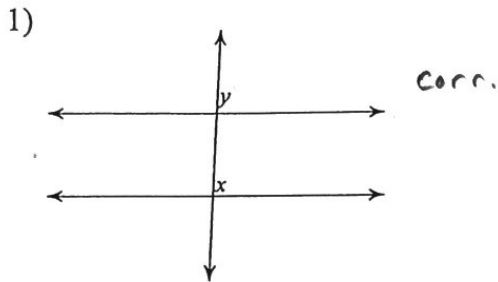
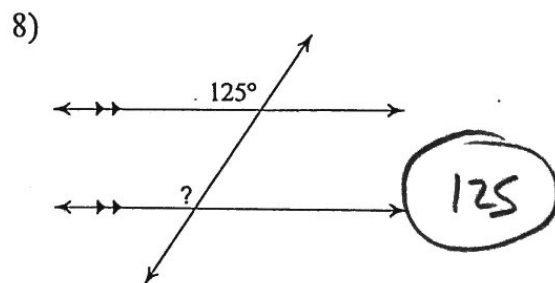
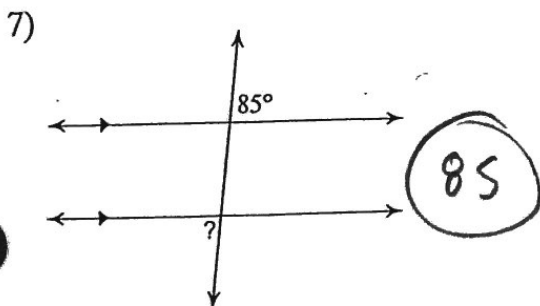
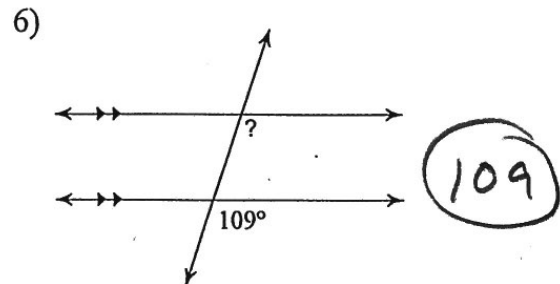
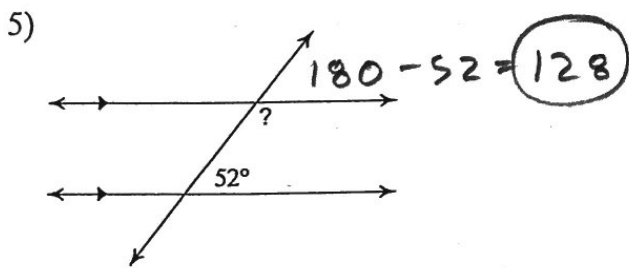


Ch. 3 Study Guide

Identify each pair of angles as corresponding, alternate interior, alternate exterior, or same-side interior.

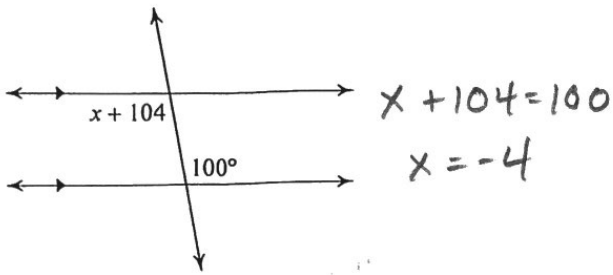


Find the measure of each angle indicated.

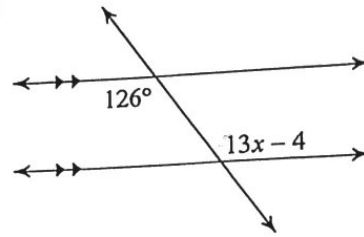


Solve for x .

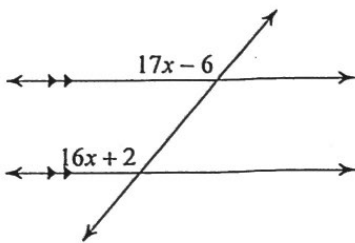
9)



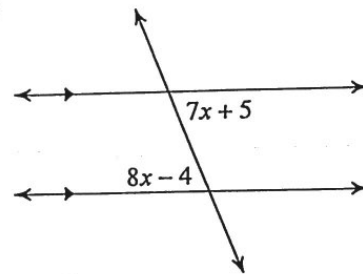
10)



11)

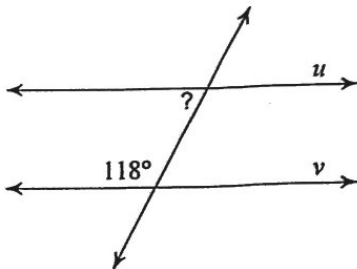


12)

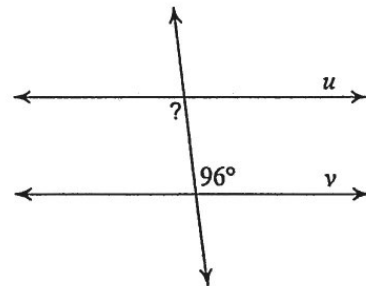


Find the measure of the indicated angle that makes lines u and v parallel.

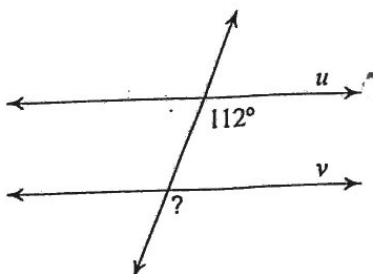
13)



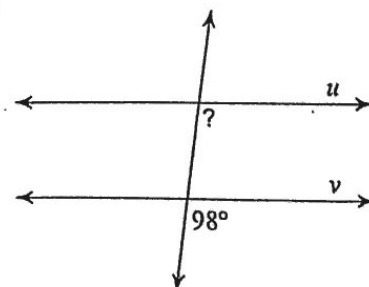
14)



15)

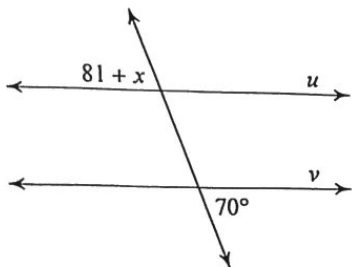


16)



Find the value of x that makes lines u and v parallel.

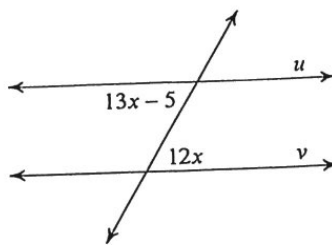
17)



$$81 + x = 70$$

$$x = -11$$

18)

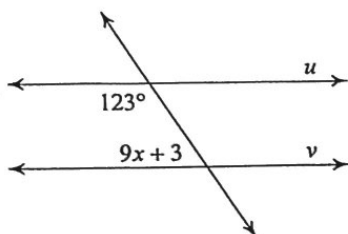


$$13x - 5 = 12x$$

$$-5 = -x$$

$$x = 5$$

19)



$$9x + 3 + 123 = 180$$

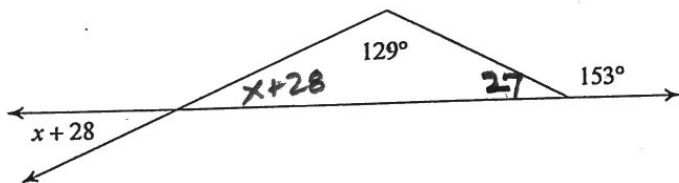
$$9x + 126 = 180$$

$$9x = 54$$

$$x = 6$$

Solve for x .

21)

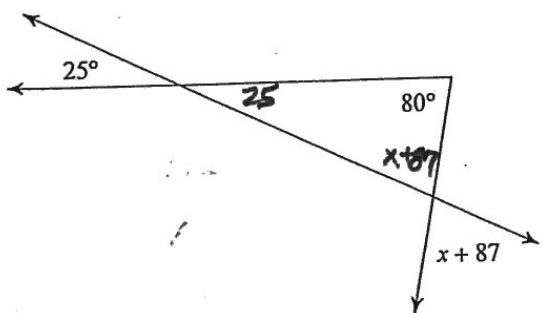


$$x + 28 + 129 = 153$$

$$x + 157 = 153$$

$$x = -4$$

22)

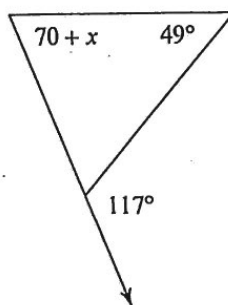


$$x + 87 + 25 + 80 = 180$$

$$x + 192 = 180$$

$$x = -12$$

23)

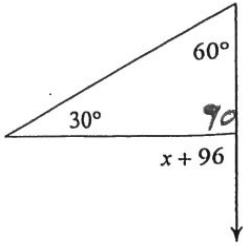


$$70 + x + 49 = 117$$

$$x + 119 = 117$$

$$x = -2$$

24)

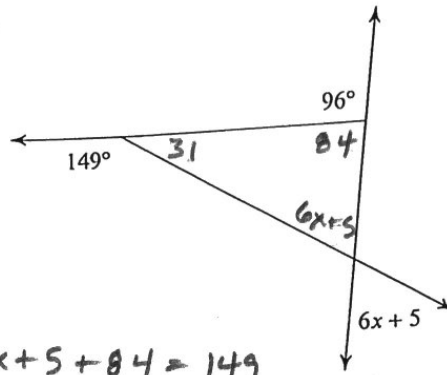


$$30 + 60 = x + 96$$

$$90 = x + 96$$

$$x = -6$$

25)



$$6x + 5 + 84 = 149$$

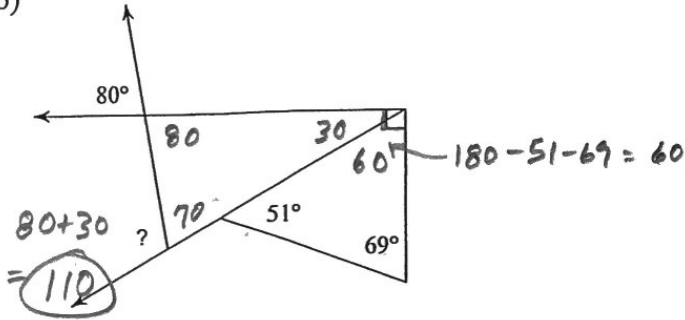
$$6x + 89 = 149$$

$$6x = 60$$

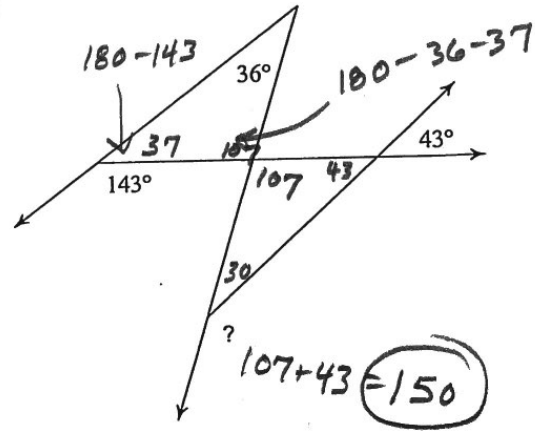
$$x = 10$$

Find the measure of each angle indicated.

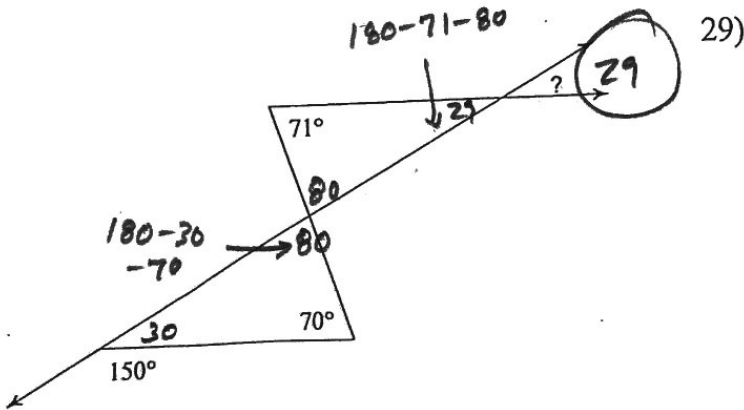
26)



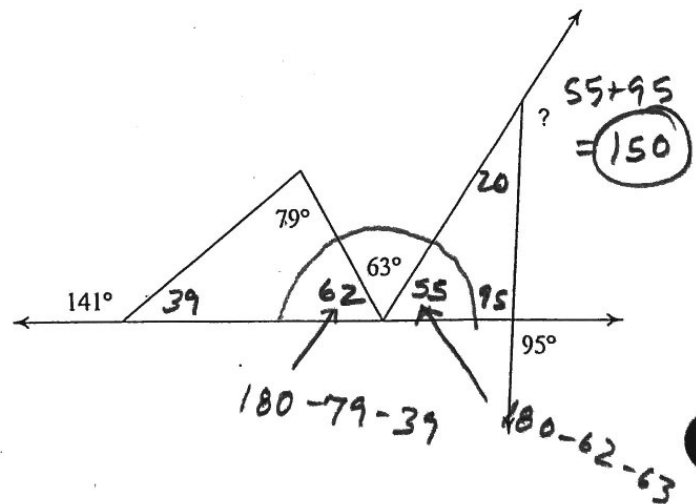
27)



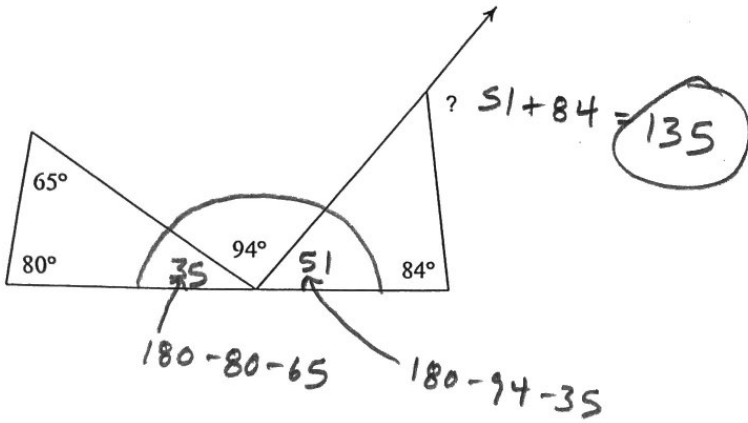
28)



29)

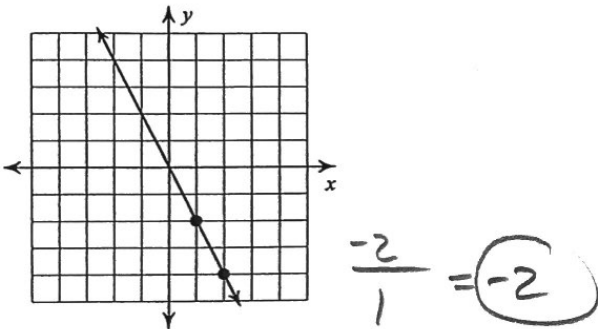


30)

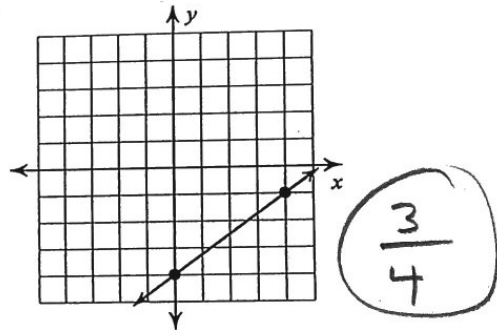


Find the slope of each line.

31)



32)



Find the slope of the line through each pair of points.

33) $(7, -7), (-16, 16)$

34) $(-6, -19), (16, -11)$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{16 - (-7)}{-16 - 7} = \frac{23}{-23} = -1$$

$$m = \frac{-11 - (-19)}{16 - (-6)} = \frac{8}{22} = \frac{4}{11}$$

Find the slope of a line perpendicular to each given line.

35) $y = -x + 1$

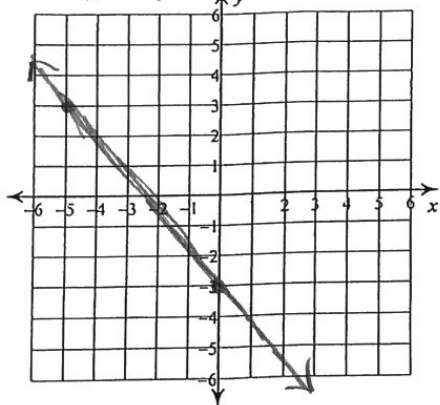
36) $y = 2x$

1

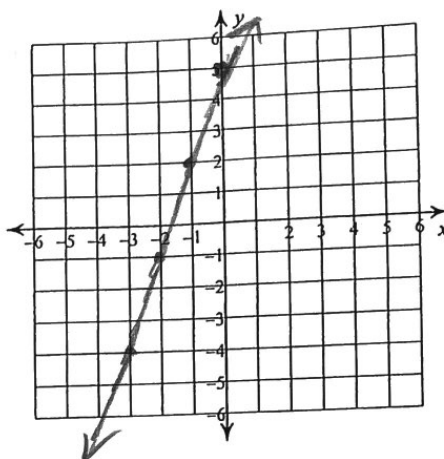
$-\frac{1}{2}$

Sketch the graph of each line.

37) $\frac{-5y}{-5} = \frac{6x+15}{-5}$ $y = -\frac{6}{5}x - 3$

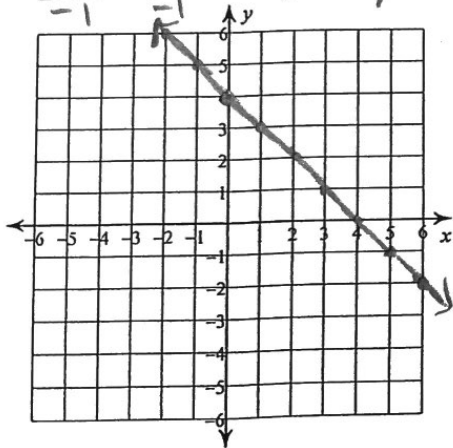


38) $-x + \frac{1}{3}y - \frac{5}{3} = 0$ $\frac{1}{3}y = (x + \frac{5}{3}) \cdot 3$



$y = 3x + 5$

39) $\frac{x-4}{-1} = \frac{-y}{-1} \Rightarrow y = -x + 4$



Write the point-slope form of the equation of the line described.

40) through: (1, 0), parallel to $y = 2x - 3$

$y - 0 = 2(x - 1)$

41) through: (5, 2), parallel to $y = \frac{2}{5}x - 5$

$y - 2 = -\frac{2}{5}(x - 5)$

42) through: (3, -3), parallel to $y = \frac{2}{3}x + 5$

$y - (-3) = \frac{2}{3}(x - 3)$

$y + 3 = \frac{2}{3}(x - 3)$

43) through: (1, -2), parallel to $y = -6x - 5$

$y - (-2) = -6(x - 1)$

$y + 2 = -6(x - 1)$

44) through: $(-5, -5)$, parallel to $y = 2x - 3$

$$y - (-5) = 2(x - (-5))$$

$$y + 5 = 2(x + 5)$$

45) through: $(-2, 0)$, perp. to $y = 2x + 5$

$$\hookrightarrow -\frac{1}{2}$$

$$y - 0 = -\frac{1}{2}(x - (-2))$$

$$y - 0 = -\frac{1}{2}(x + 2)$$

46) through: $(1, 3)$, perp. to $y = \frac{1}{5}x + 5$

$$\hookrightarrow 5$$

$$y - 3 = 5(x - 1)$$

47) through: $(5, -3)$, perp. to $y = 5x + 5$

$$\hookrightarrow -\frac{1}{5}$$

$$y - (-3) = -\frac{1}{5}(x - 5)$$

$$y + 3 = -\frac{1}{5}(x - 5)$$

48) through: $(-4, 1)$, perp. to $y = x - 5$

$$\hookrightarrow -1$$

$$y - 1 = -1(x - (-4))$$

$$y - 1 = -1(x + 4)$$

49) through: $(4, -5)$, perp. to $y = 4x + 4$

$$\hookrightarrow -\frac{1}{4}$$

$$y - (-5) = -\frac{1}{4}(x - 4)$$

$$y + 5 = -\frac{1}{4}(x - 4)$$

① S	R
① $x \parallel y$	① Given
② $m\angle 4 + m\angle 6 = 180$	② SSI \angle 's
③ $m\angle 1 = m\angle 4$	③ Vertical \angle 's
④ $m\angle 1 + m\angle 6 = 180$	④ Substitution

② S	R
① $x \parallel y, \text{ all } b$	① Given
② $\angle 1 \cong \angle 9$	② Corr. \angle 's
③ $\angle 9 \cong \angle 13$	③ Corr. \angle 's
④ $\angle 1 \cong \angle 13$	④ Transitive Prop.

③ S	R
① $x \parallel y, \text{ all } b$	① Given
② $m\angle 2 + m\angle 9 = 180$	② SSI \angle 's
③ $m\angle 9 = m\angle 13$	③ Corr. \angle 's
④ $m\angle 2 + m\angle 13 = 180$	④ Substitution

④ S	R
① $\text{all } b, x \parallel y$	① Given
② $\angle 2 \cong \angle 10$	② Corr. \angle 's
③ $\angle 10 \cong \angle 5$	③ AE \angle 's
④ $\angle 2 \cong \angle 5$	④ Transitive Prop.

⑤ S	R
① $\text{all } b, \angle 2 \cong \angle 4$	① Given
② $\angle 2 \cong \angle 10$	② Corr. \angle 's
③ $\angle 10 \cong \angle 4$	③ Trans. Prop.
④ $x \parallel y$	④ Conv. Corr. \angle 's Thm.

⑥ S	R
① $x \parallel y$	① Given
② $m\angle 9 + m\angle 11 = 180$	② Linear Pair
③ $m\angle 11 = m\angle 5$	③ Corr. \angle 's
④ $m\angle 9 + m\angle 5 = 180$	④ Substitution

⑦ S	R
① $x \parallel y, \text{ all } b$	① Given
② $\angle 7 \cong \angle 15$	② Corr. \angle 's
③ $\angle 15 \cong \angle 4$	③ Vertical \angle 's
④ $\angle 7 \cong \angle 4$	④ Trans. Prop.

⑧ S	R
① $x \parallel y, \angle 8 \cong \angle 9$	① Given
② $\angle 9 \cong \angle 13$	② Corr. \angle 's
③ $\angle 8 \cong \angle 13$	③ Transitive Prop.
④ $\text{all } b$	④ Conv. Alt. Int. \angle 's