

## Summer Packet for Algebra II

**Evaluate each expression.**

1)  $(2 \cdot 2) \div 2$

2)  $(2^2)^2 + 5 + 6$

3)  $2 - 1 + 5(3 + 4)$

4)  $6 - (10 \cdot 2 + 4) \div 6$

5)  $4 \cdot 3 - 2 - 3 - 1$

6)  $(9 \cdot 2) \div (4 - 1)$

7)  $2(2 \cdot 5 + 3 \cdot 4)$

8)  $\frac{12 - 3}{2 \cdot 3 - 3}$

9)  $\frac{1 + 5 + 1 + 2}{3}$

10)  $\frac{2 + 2 \cdot 2}{6} + 6$

11)  $(2 + 3 + 3 + 6) \cdot 3$

12)  $\frac{18}{1 + 6 - 4} - 4$

**Simplify each expression.**

13)  $-2x + (3x + 9) \cdot -1$

14)  $-10a + (10a - 9) \cdot -8$

15)  $10 + (n - 6) \cdot 9$

16)  $-1 - 2(n + 3)$

17)  $(x - 10) \cdot 10 + 8(-4 + 4x)$

18)  $3(2k - 3) - 8(k + 5)$

19)  $(x - 2) \cdot 3 - 7(-9x + 6)$

20)  $-9(2k - 5) + (7k - 3) \cdot -7$

**Solve each equation.**

21)  $102 = -6(4b + 3)$

22)  $-4(1 + 8v) = 188$

23)  $-126 = 3(2 + 6v) + 4v$

24)  $7 - 5(k - 8) = 82$

**Find each product.**

25)  $(4n + 2)(6n + 4)$

26)  $(2x + 1)(5x + 1)$

27)  $(3m + 6)(5m + 8)$

28)  $(3x - 2)(7x - 6)$

29)  $(8x + 5)(7x + 6)$

30)  $(2r - 2)(2r - 5)$

31)  $(3m + 2)(7m + 3)$

32)  $(4a - 6)(a - 8)$

**Solve each equation.**

33)  $-n - 3n = -6(5n - 2) + 4(6n + 3)$

34)  $-8(6x + 2) - x = -2(8 - 2x)$

35)  $2 - 6b - 1 = 5(1 - 4b) + 4(b - 1)$

36)  $-5(5p + 3) = 2p + 4(7 + 4p)$

**Solve each question. Round your answer to the nearest hundredth.**

37) Kayla can dig a 10 ft by 10 ft hole in ten hours. Ndiba can dig the same hole in eight hours. Find how long it would take them if they worked together.

38) Working alone, John can sweep a porch in 11 minutes. Jose can sweep the same porch in 9 minutes. Find how long it would take them if they worked together.

39) Jack can sweep a porch in 15 minutes. Matt can sweep the same porch in 10 minutes. If they worked together how long would it take them?

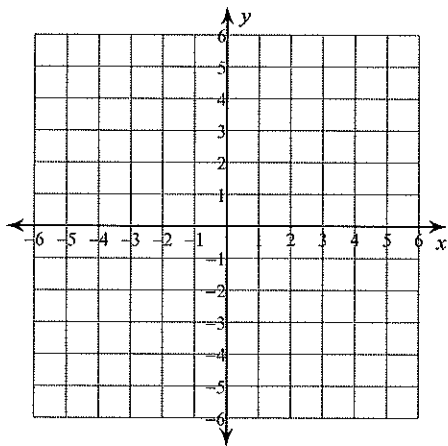
40) Eugene traveled to his friend's house and back. It took two hours longer to go there than it did to come back. The average speed on the trip there was 30 mph. The average speed on the way back was 45 mph. How many hours did the trip there take?

41) A passenger plane left Rome three hours before a cargo plane. The planes flew in opposite directions. The cargo plane flew at 310 km/h for four hours. After this time the planes were 3585 km apart. Find the passenger plane's speed.

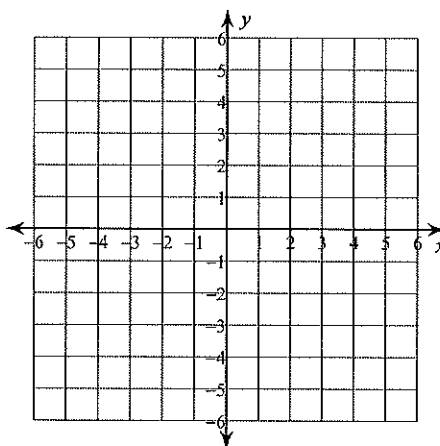
42) Kim made a trip to the train station and back. On the trip there she traveled 48 km/h and on the return trip she went 80 km/h. How long did the trip there take if the return trip took three hours?

Sketch the graph of each line.

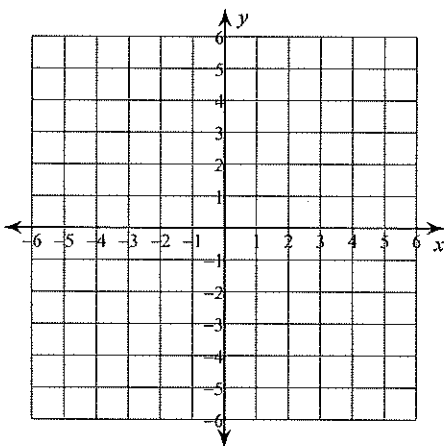
43)  $x$ -intercept =  $-3$ ,  $y$ -intercept =  $4$



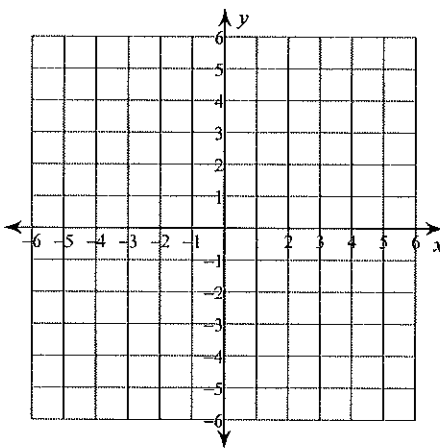
44)  $x$ -intercept =  $-1$ ,  $y$ -intercept =  $1$



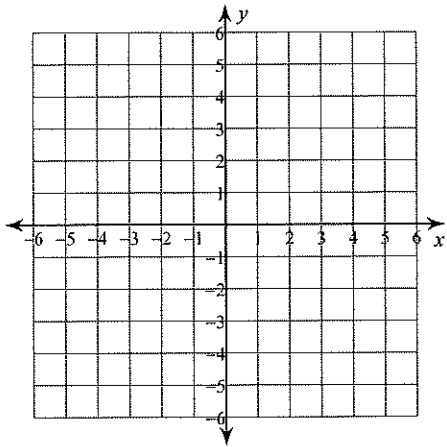
45)  $y = -5x - 5$



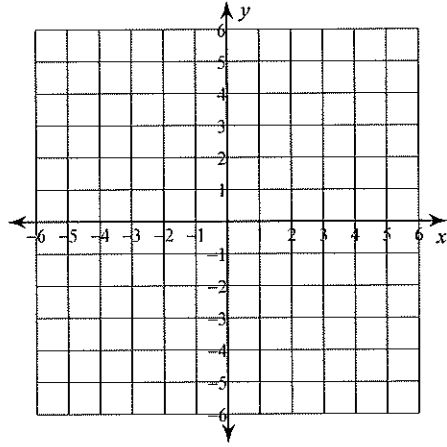
46)  $y = -\frac{1}{4}x + 1$



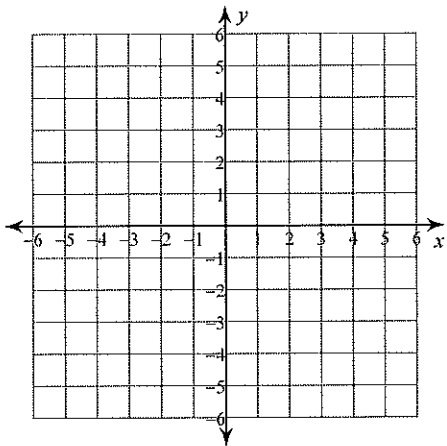
$$47) y = \frac{8}{3}x + 5$$



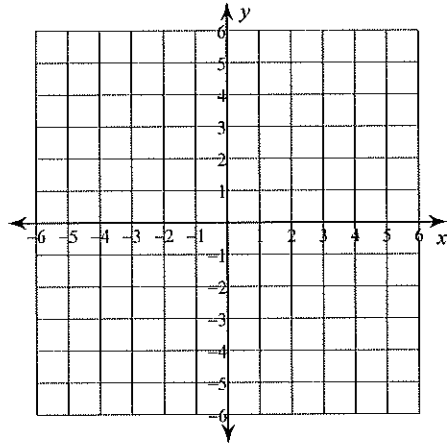
$$48) y = \frac{5}{3}x - 4$$



$$49) 3x + 5y = 0$$



$$50) 2x - 5y = 15$$



**Write the slope-intercept form of the equation of each line given the slope and y-intercept.**

51) Slope = 0, y-intercept = -2

52) Slope = -3, y-intercept = -5

Write the slope-intercept form of the equation of each line.

53)  $6y + 16x - 18 = 0$

54)  $0 = -12y + 12 + 9x$

55)  $-3y + 4 = -2x$

56)  $y - x - 3 = 0$

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

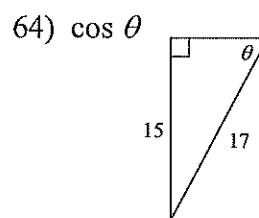
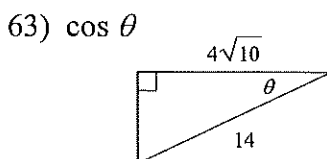
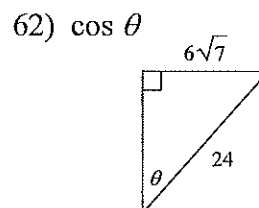
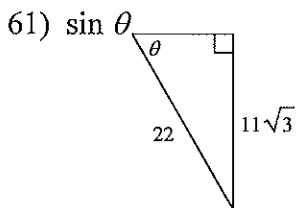
57) through:  $(2, 1)$ , parallel to  $y = -\frac{2}{7}x - 2$

58) through:  $(-3, 4)$ , parallel to  $y = -\frac{4}{3}x - 2$

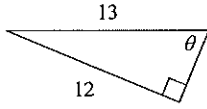
59) through:  $(4, -3)$ , perp. to  $y = \frac{2}{3}x + 4$

60) through:  $(3, 0)$ , perp. to  $y = x + 2$

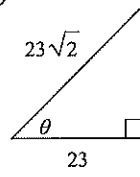
Find the value of the trig function indicated.



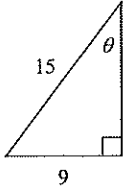
65)  $\sin \theta$



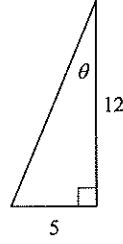
66)  $\tan \theta$



67)  $\tan \theta$

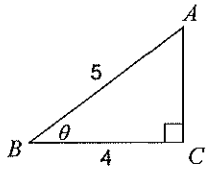


68)  $\sin \theta$

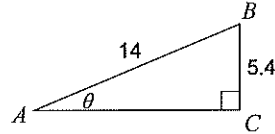


**Find the measure of each angle indicated. Round to the nearest tenth.**

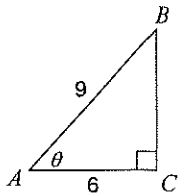
69)



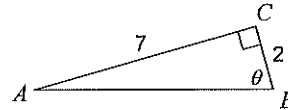
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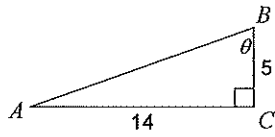
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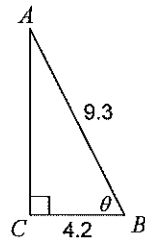
72)



73)

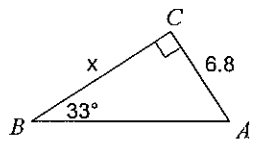


74)

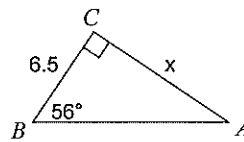


Find the measure of each side indicated. Round to the nearest tenth.

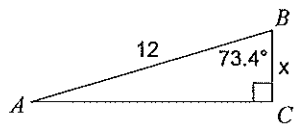
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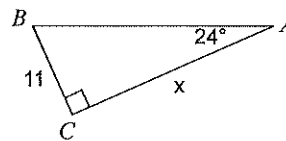
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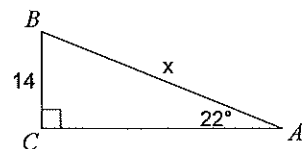
77)



78)



79)



80)

