SUMMER PACKET PREPARING FOR GEOMETRY

This packet will be reviewed on the first day of school. All work must be shown, and final solutions should be circled. You are expected to understand the concepts covered in this packet. You will be given a grade for it.

Student's Name_____

Solve each equation.

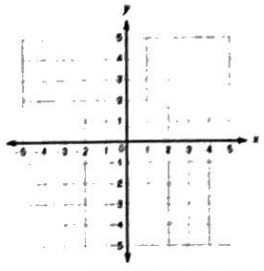
1. $-x-9=x+3$	2. $7r-4+2r=12+7r$
3. $-5-4(n+3)=-19-3n$	4. $-3(3-k)=3(k+3)$

Solve for the indicated variable.

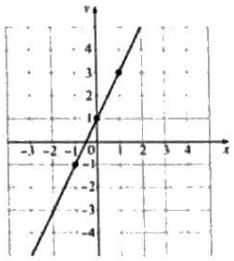
5. $d=rt$ for r	6. $ax+by+c=0$ for y
7. $A=\frac{e+f}{2}$ for e	8. $3k+7n=p$ for k

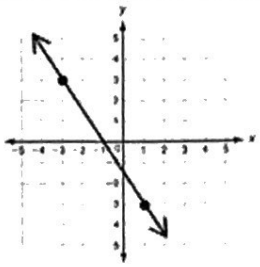
Use intercepts to graph the line described by the equation.

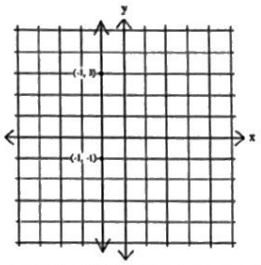
9. $4x+3y=-12$

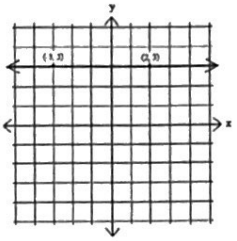


Find the slope of the line.

10. 

11. 

12. 

13. 

Find the slope of the line that contains each pair of points.

14. $(3,10)$ and $(2,5)$

15. $(12,-2)$ and $(0,6)$

Find the slope of the line described by each equation.

16. $5x+4y=40$

17. $7x+42=2y$

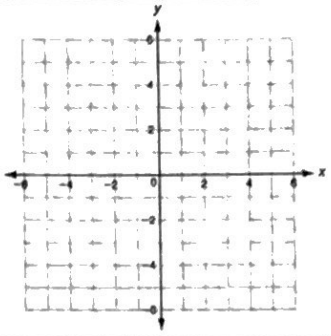
Write the equation that describes each line in slope-intercept form.

18. slope = 8; y-intercept = -6

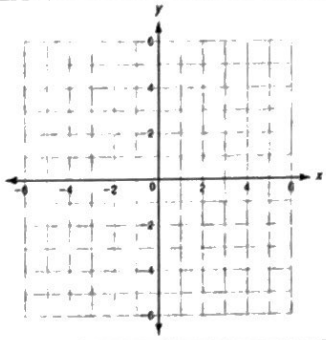
19. slope = $-\frac{1}{2}$, $(8,-1)$ is on the line

Write each equation in slope-intercept form. Then graph the line described by the equation.

20. $y + x = 3$



21. $5x - 2y = 10$



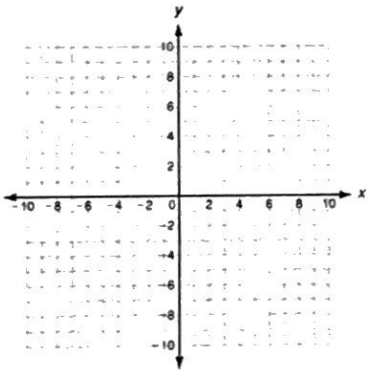
Write an equation in point-slope form for the line with the given slope that contains the given point.

22. slope = 4; (5, 6)

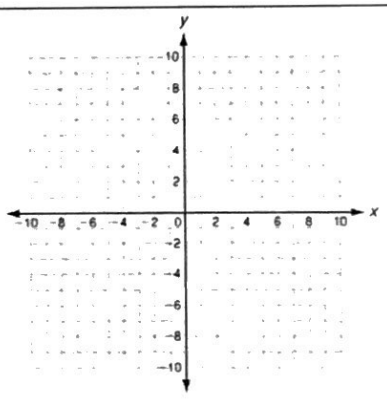
23. slope = –3; (7, –2)

Graph the line described by each equation.

24. $y - 3 = \frac{2}{3}(x + 1)$

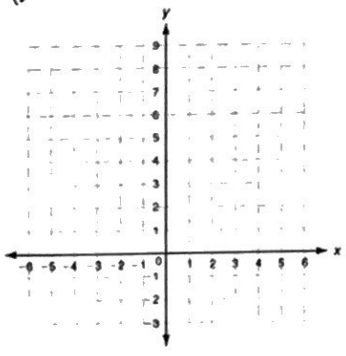


25. $y + 4 = -3(x - 4)$

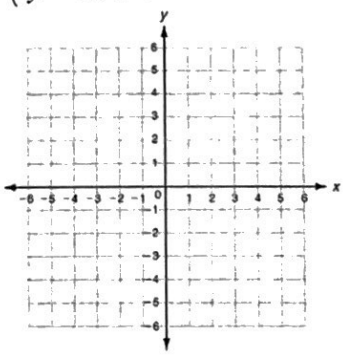


Solve each system by graphing.

26. $\begin{cases} y = 2x + 3 \\ y = -x + 9 \end{cases}$ Solution: _____



27. $\begin{cases} y = -3x + 4 \\ y = 2x + 4 \end{cases}$ Solution: _____



Solve each system by substitution.

28. $\begin{cases} y = 3x + 4 \\ y = 4x + 5 \end{cases}$

29. $\begin{cases} -2x + 2y = 4 \\ 4x + 3y = -15 \end{cases}$

Solve each system by elimination.

30. $\begin{cases} x + 6y = -8 \\ 7x + 2y = 24 \end{cases}$

31. $\begin{cases} 9x + 6y = 12 \\ -18x - 8y = -4 \end{cases}$

Evaluate each expression for the given value(s) of the variable(s).

32. $(3t)^{-3}$ for $t = 2$

33. $4x^{-2}y^{0}$ for $x = 7$ and $y = -4$

Add or subtract.

34. $12x^2 + 11y^2 - 5x^2$

35. $\left(-8k^2 + 5\right) - \left(3k^2 + 7k - 6\right)$

Multiply.

36. $-4x\left(x^2-5x+7\right)$	37. $(y-7)(y-4)$
38. $(x-4)^2$	39. $(5x+2)^2$

Factor each polynomial. (GCF)

40. $12c^3-5c$	41. $6x^2-18x+6$

Factor each polynomial.

42. $x^2+11x+28$	43. x^2-8x+7
44. $x^2-2x-24$	45. $x^2+4x-21$
46. $1-9x^2$	47. $64x^2-1$

Use the Zero Product Property to solve each equation. Check your answer.

48. $(x-4)(x-3)=0$	49. $x(x+13)=0$

Solve each quadratic equation by factoring. Check your answer.

50. $x^2+2x-15=0$	51. $x^2-5x-6=0$

Solve using square roots. Check your answer.

52. $x^2=64$	53. $x^2=900$
54. $9x^2+20=189$	55. $0=49x^2-16$

Solve by completing the square.

56. $x^2+10x=-21$	57. $-x^2+6x-3=0$

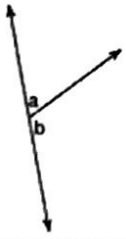
Solve using the Quadratic Formula.

58. $x^2 + 7x - 6 = 0$

59. $2x^2 - x - 11 = 0$

Name the relationship(s): complementary, supplementary, vertical, or adjacent.

60.



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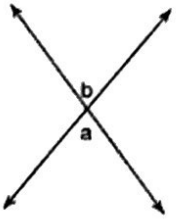

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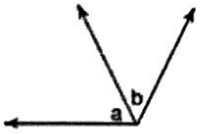

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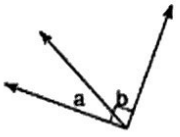
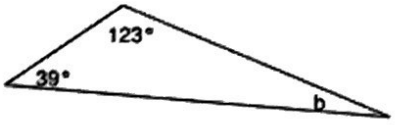


Find the measure of angle *b*.

64.



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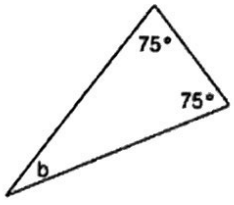

Find the perimeter of each figure.

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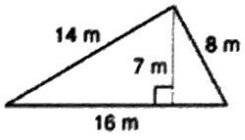

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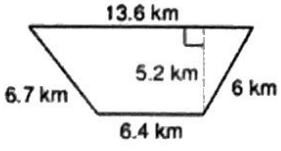

Find the area of each figure.

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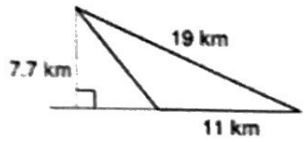

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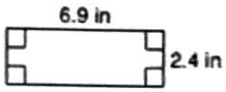

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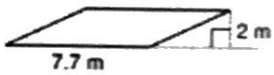

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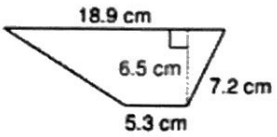
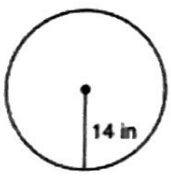


Find the area and circumference of each circle.

72.



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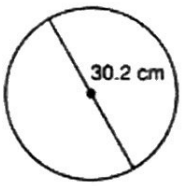
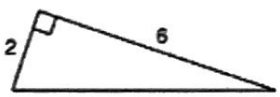


Use the Pythagorean Theorem to find the missing length.

74.



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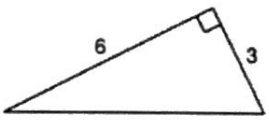

The polygons in each pair are similar. Find the scale factor of the smaller figure to the larger figure.

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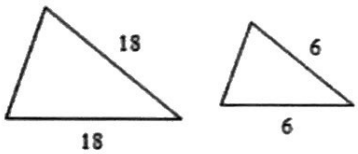

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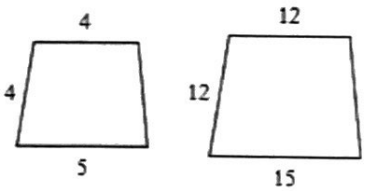
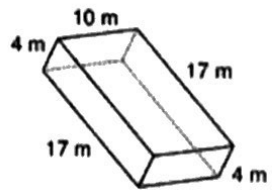


Find the volume of each figure – see formulas below.

78.



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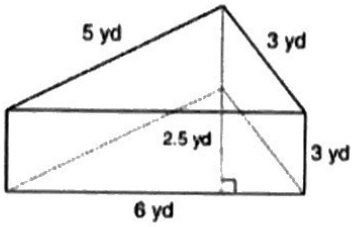

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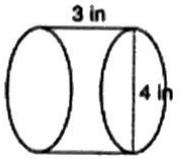

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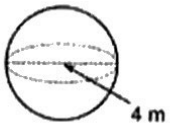

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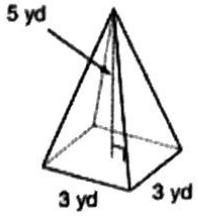

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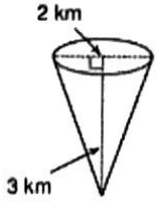

Volume Formulas		
Prism	**Pyramid**	**Cylinder**
$V = Bh$	$V = \frac{1}{3}Bh$	$V = \pi r^2 h$
Cube	**Cone**	**Sphere**
$V = s^3$	$V = \frac{1}{3}\pi r^2 h$	$V = \frac{4}{3}\pi r^3$