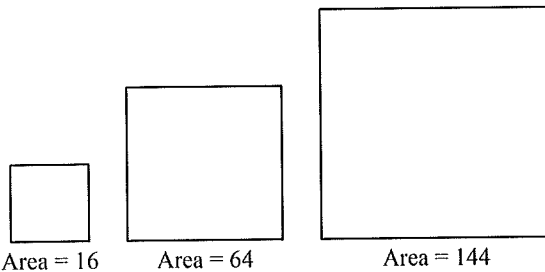


**ALGEBRA II SUMMER ENRICHMENT PACKET****Multiple Choice**

Identify the choice that best completes the statement or answers the question.

- \_\_\_\_\_ 1. The day before the parade, the school band's starting point was changed. The band director called three band members. Each of these band members called 4 other band members. Then all of these band members called three members. How many band members, including the band director, are notified of the new starting point?  
 A. 40 band members                      C. 36 band members  
 B. 51 band members                      D. 28 band members
- \_\_\_\_\_ 2. A triangle has an angle of  $108^\circ$ , which is twice the measure of another angle in the triangle. What are the measures of the three angles?  
 A.  $28^\circ, 54^\circ, 113^\circ$                       C.  $28^\circ, 54^\circ, 108^\circ$   
 B.  $18^\circ, 54^\circ, 108^\circ$                       D.  $54^\circ, 108^\circ, 162^\circ$
- \_\_\_\_\_ 3. The total number of horses and people at the riding academy for the Sunday session was 39. The total number of legs at the academy that day was 124. How many people were at the riding academy that Sunday?  
 A. 27 people                      B. 16 people                      C. 23 people                      D. 12 people
- \_\_\_\_\_ 4. Mimo and Stan went out for some frozen yogurt. They want to leave the server a tip. Mimo has 5 coins in his pocket: a penny, a nickel, a dime, a quarter, and a half-dollar. If he uses exactly three coins for the tip, how many different tips are possible?  
 A. 20 tips                      B. 10 tips                      C. 5 tips                      D. 15 tips
- \_\_\_\_\_ 5. Suppose you roll a red number cube and a blue number cube. How many different rolls will have a sum of seven?  
 A. 3 rolls                      B. 12 rolls                      C. 1 rolls                      D. 6 rolls
- \_\_\_\_\_ 6. What is the perimeter of the fifth square in this pattern?

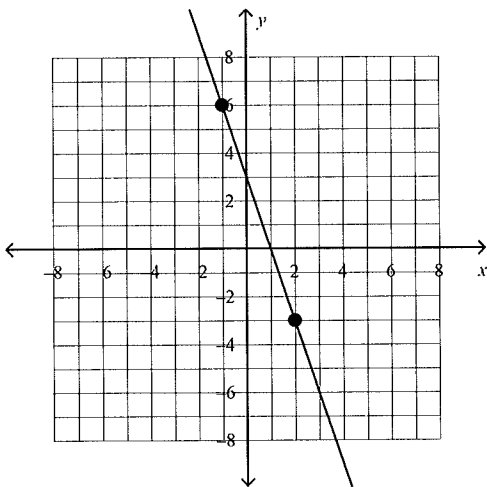


- A. 60 units                      B. 80 units                      C. 400 units                      D. 256 units
- \_\_\_\_\_ 7. Aaron, Bob, Charles, and Daniel live in Tulsa, Portland, Miami, and Michigan. Bob is the brother of the man who lives in Portland. Daniel is not Bob's brother and does not live in Michigan. Either Aaron or Charles lives in Tulsa. Aaron is an only child. Which person lives in which city?  
 A. Aaron, Miami; Bob, Michigan; Charles, Tulsa; Daniel, Portland  
 B. Aaron, Tulsa; Bob, Michigan; Charles, Portland; Daniel, Miami  
 C. Aaron, Portland; Bob, Miami; Charles, Michigan; Daniel, Tulsa  
 D. Aaron, Tulsa; Bob, Portland; Charles, Miami; Daniel, Michigan



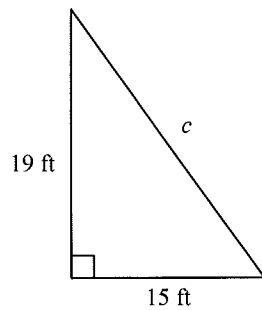
**Divide.**

18.  $\frac{2}{3} \div \frac{3}{6}$   
 A.  $\frac{4}{3}$                       B. 1                      C.  $\frac{3}{4}$                       D.  $\frac{1}{3}$
19.  $\frac{1}{7} \div \frac{9}{21}$   
 A.  $\frac{3}{49}$                       B. 3                      C.  $\frac{1}{3}$                       D.  $\frac{49}{3}$
20. Suppose  $r = -2$ ,  $d = -8$ , and  $e = 1$ . Which expression equals  $-17$ ?  
 A.  $2r + 2d + 3e$                       C.  $3r + 4d + 4e$   
 B.  $-8r + 3d + 2e$                       D.  $7r + 2d + 3e$
21. Simplify  $(-5 + 4^2)(3 - 5)^3$ .  
 A. 88                      B.  $-88$                       C.  $-44$                       D. 168
22. Solve  $T = \frac{V}{Q}$  for  $Q$ .  
 A.  $\frac{T}{V}$                       B.  $VT$                       C.  $\frac{V}{T}$                       D.  $V + T$
23. Evaluate  $y = (x + 2)(x - 5)$  for  $x = 6$ .  
 A. 8                      B. 9                      C. 88                      D. 19
24. Evaluate  $V = \pi r^2 h$  for  $r = 9$  and  $h = 15$ .  
 A. 3,817.04                      B. 1,215                      C. 6,361.73                      D. 424.12
25. In which quadrant is the point  $(-1, -4)$ ?  
 A. II                      B. IV                      C. I                      D. III
26. Find the slope of the line.



- A.  $\frac{1}{3}$                       B.  $-\frac{1}{3}$                       C.  $-3$                       D. 3

\_\_\_\_ 27. Find the value of  $c$ . Round to the nearest tenth.



Not drawn to scale

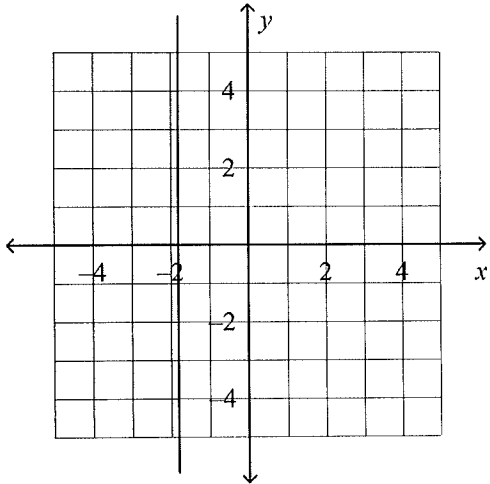
- A. 586 ft      B. 24.2 ft      C. 19.4 ft      D. 15.6 ft

**Solve the equation.**

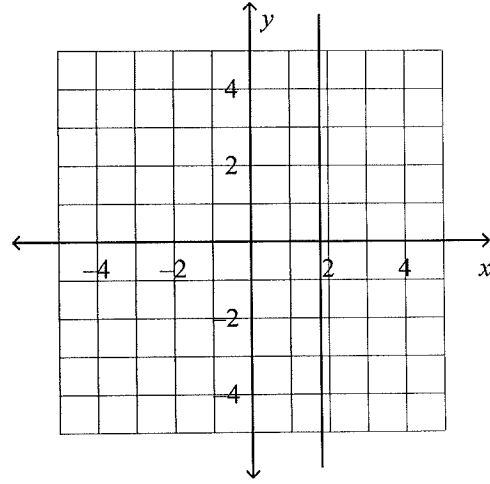
- \_\_\_\_ 28.  $9 + 8n = 41$   
A. 7      B. 6      C. 5      D. 4
- \_\_\_\_ 29.  $4(y + 4) = 36$   
A. 5      B. 13      C. 6      D. 14
- \_\_\_\_ 30.  $3|n| - 4 = 14$   
A. 8, -8      B. 7, -7      C. 6      D. 6, -6
- \_\_\_\_ 31.  $-6|h - 4| = -24$   
A. 1, 8      B. 8      C. -1, -8      D. no solution
- \_\_\_\_ 32.  $3y + 20 = 3 + 2y$   
A.  $-\frac{1}{17}$       B.  $7\frac{2}{3}$       C. 23      D. -17
- \_\_\_\_ 33.  $-5y - 9 = -(y - 1)$   
A.  $-\frac{1}{2}$       B.  $-2\frac{1}{2}$       C. -2      D.  $-\frac{2}{5}$

34. Solve and graph  $x - 5 \leq -9$ .

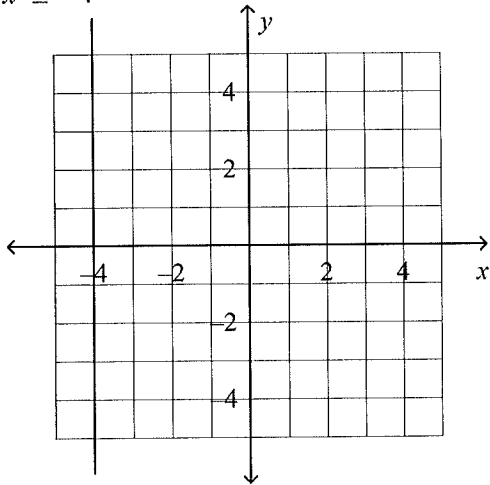
A.  $x \leq -\frac{9}{5}$



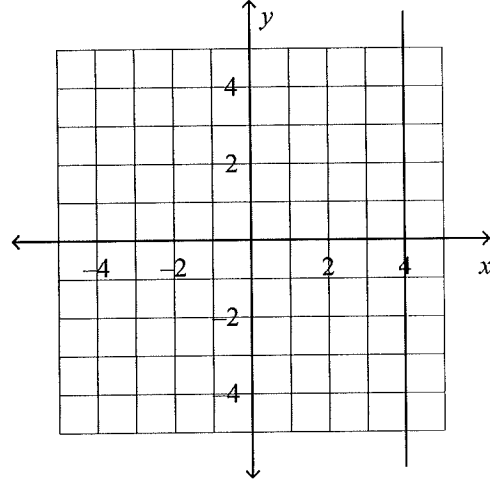
C.  $x \leq \frac{9}{5}$



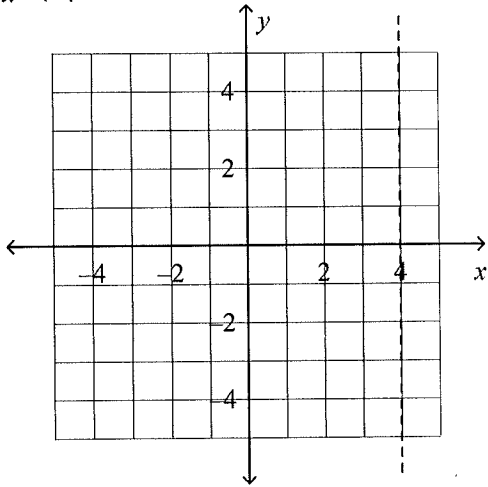
B.  $x \leq -4$



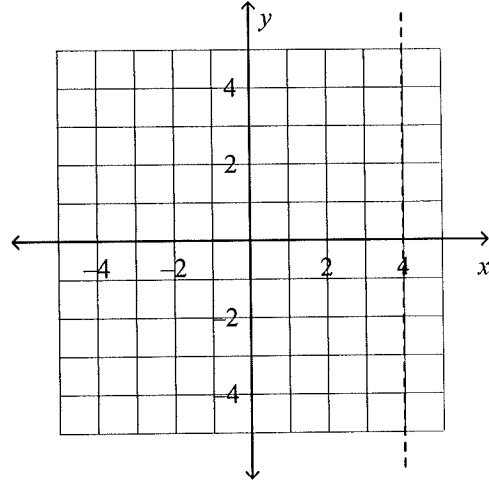
D.  $x \leq 4$



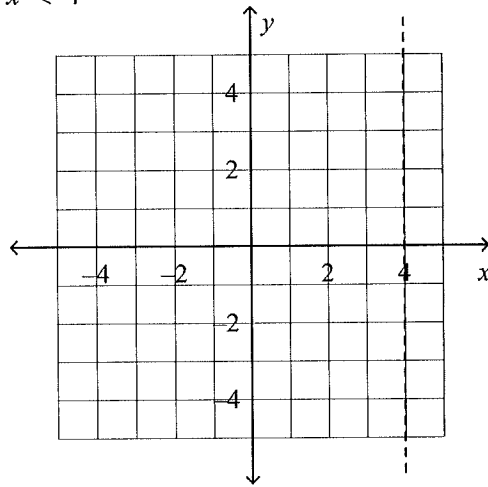
35. Solve and graph  $4x - 2 < 14$ .  
 A.  $x < 4$



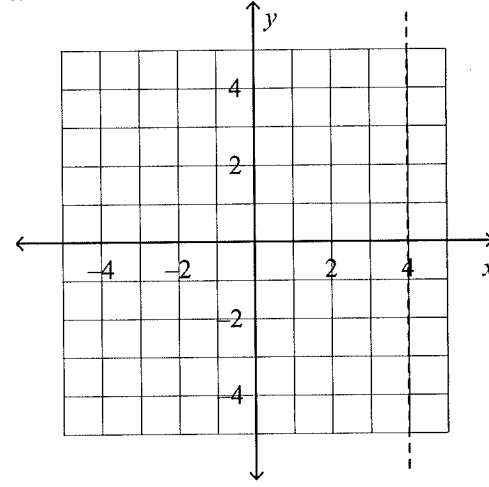
C.  $x > 4$



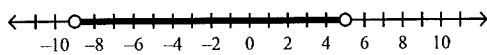
B.  $x < 4$



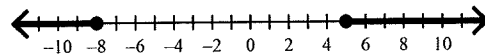
D.  $x > 4$



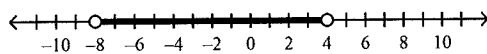
36. Solve  $|d + 2| \geq 6$ . Graph the solutions.  
 A.  $-9 < d < 5$



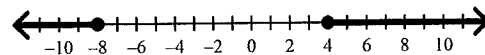
C.  $-8 < d < 5$



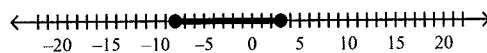
B.  $-8 > d > 4$



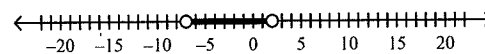
D.  $d \leq -8$  or  $d \geq 4$



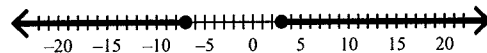
37. Solve  $|4x + 10| < 18$ . Graph the solutions.  
 A.  $-8 < x < 3$



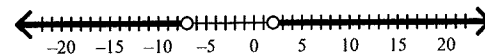
C.  $-7 < x < 2$



B.  $-7 < x < 3$

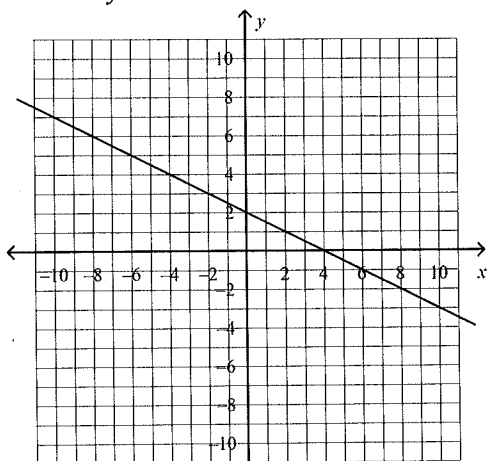


D.  $-7 > x > 2$

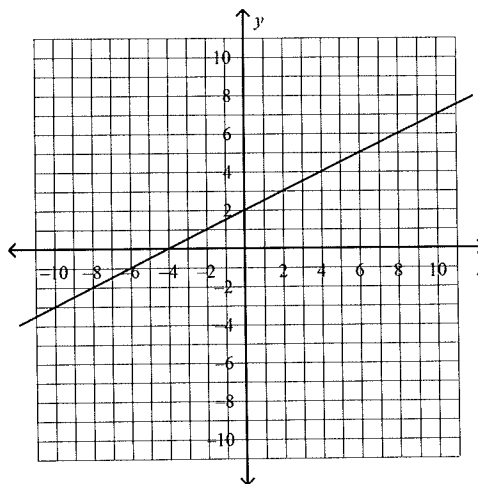


38. Graph  $2x - 4y = 8$ .

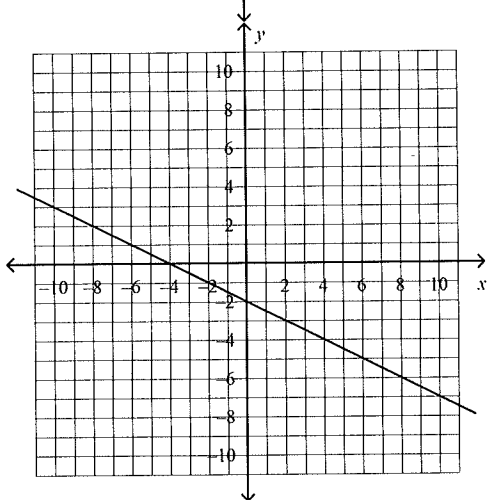
A.



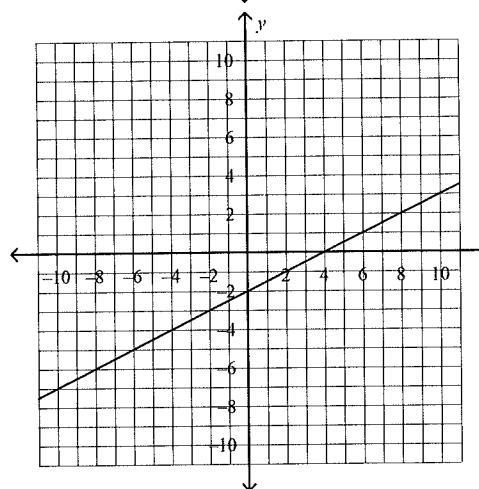
C.



B.



D.



**Simplify. Write the answer in standard form.**

39.  $(3g^2 - 8g - 4) - (6g^2 + 4g - 5)$

A.  $9g^2 - 12g + 9$

B.  $9g^2 + 12g - 1$

C.  $-3g^2 - 12g + 1$

D.  $-3g^2 + 12g + 1$

40.  $2(d^2 - 9d - 5) + (d^2 - 9)$

A.  $3d^2 + 18d - 10$

B.  $2d^2 - 27d - 10$

C.  $3d^2 - 18d - 19$

D.  $2d^2 - 27d + 19$

**Factor the expression.**

41.  $m^2 - 11m + 30$

A.  $(m + 6)(m + 5)$

B.  $(m - 6)(m + 5)$

C.  $(m - 6)(m - 5)$

D.  $(m + 6)(m - 5)$

Name: \_\_\_\_\_

ID: A

**Write the number in scientific notation.**

\_\_\_\_\_ 42. 48,000,000

A.  $4.8 \times 10^9$

B.  $4.8 \times 10^8$

C.  $4.8 \times 10^7$

D.  $48 \times 10^6$

\_\_\_\_\_ 43. 0.0000234

A.  $2.34 \times 10^{-5}$

B.  $2.34 \times 10^{-6}$

C.  $234 \times 10^6$

D.  $23.4 \times 10^5$

**Find the product or quotient. Write the answer in scientific notation and in standard form. Round to the appropriate number of significant digits.**

\_\_\_\_\_ 44.  $(5.2 \times 10^5) \div (6.44 \times 10^2)$

A.  $0.0081 \times 10^{-3}$ ; 0.0081

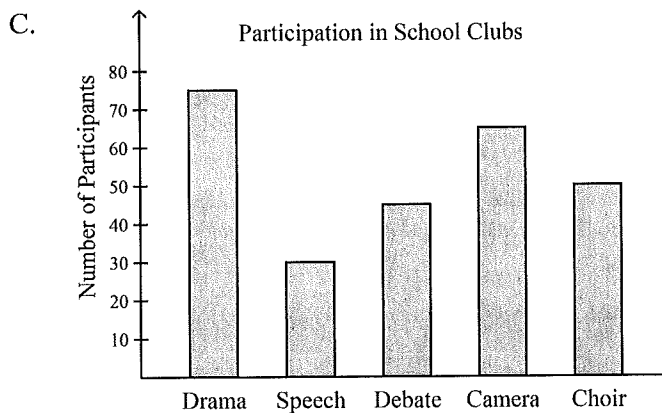
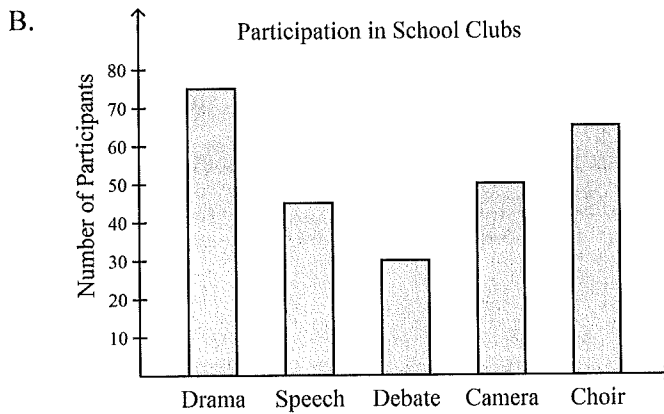
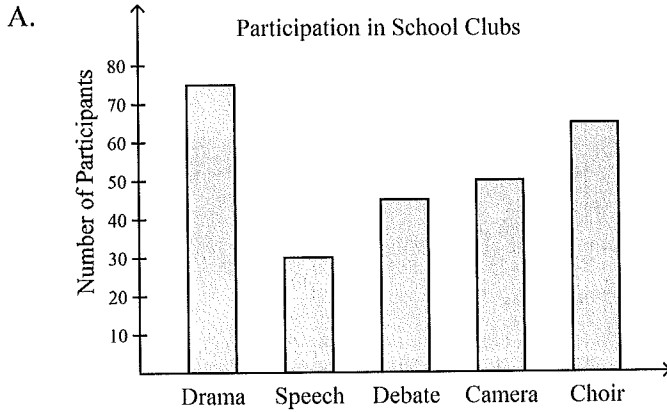
B.  $3.349 \times 10^2$ ; 334.9

C.  $6.44 \times 10^7$ ; 644

D.  $8.1 \times 10^2$ ; 810

45. Which of the following bar graphs shows the number of participants in various school clubs as listed below?

Drama	Speech	Debate	Camera	Choir
75	30	45	50	65



D. none of these

46. Which number is not written in scientific notation?

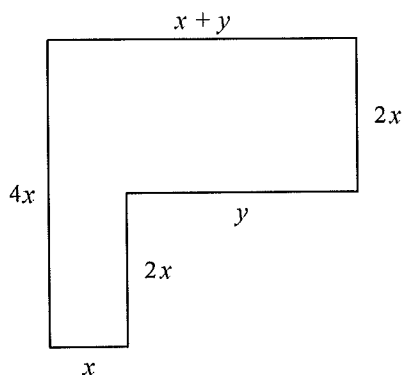
- A.  $2.6 \times 10^{-2}$
- B.  $3.689 \times 10^5$

- C.  $143.6 \times 10^{-2}$
- D.  $9.561 \times 10^2$



**Simplify by combining like terms.**

- \_\_\_\_\_ 54.  $4c - 4d + 8c - 3d$   
 A.  $12c + 7d$       B.  $12c - 7d$       C.  $-12c - 7d$       D.  $-7c + 12d$
- \_\_\_\_\_ 55.  $-3(-4y + 3) + 7y$   
 A.  $19y - 9$       B.  $10y$       C.  $-19y + 3$       D.  $-19y - 9$
- \_\_\_\_\_ 56. Find the perimeter of the figure. Simplify the answer.



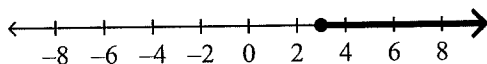
- A.  $9x + 2y$       B.  $10x + y$       C.  $10x + 2y$       D.  $9x + 3y$

**Solve the equation or formula for the indicated variable.**

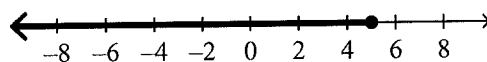
- \_\_\_\_\_ 57. The formula for the time a traffic light remains yellow is  $t = \frac{1}{8}s + 1$ , where  $t$  is the time in seconds and  $s$  is the speed limit in miles per hour.
- Solve the equation for  $s$ .
  - What is the speed limit at a traffic light that remains yellow for 4.5 seconds?
- A.  $s = 8t - 8$ ;  $s = 28$  mi/h      C.  $s = 8t - 1$ ;  $s = 35$   
 B.  $s = 8t$ ;  $s = 36$  mi/h      D.  $s = \frac{1}{8}t - 1$ ;  $s = 28$  mi/h

**Solve the inequality. Graph the solution set.**

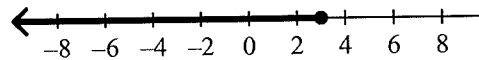
- \_\_\_\_\_ 58.  $2 + 2k \leq 8$   
 A.  $k \geq 3$



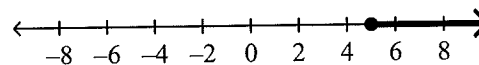
- B.  $k \leq 5$



- C.  $k \leq 3$



- D.  $k \geq 5$

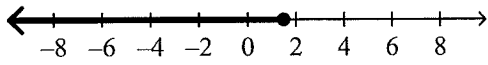


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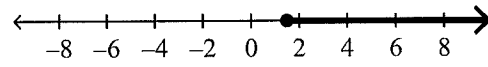
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59.  $2r - 9 \geq -6$

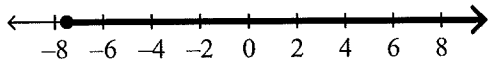
A.  $r \leq 1\frac{1}{2}$



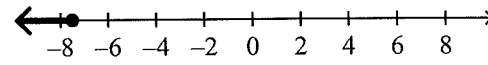
C.  $r \geq 1\frac{1}{2}$



B.  $r \geq -7\frac{1}{2}$



D.  $r \leq -7\frac{1}{2}$



60. Write 0.54 as a percent.