Multiple Choice

1. Which list shows the numbers in increasing order?
   A. $1.25, -\frac{3}{2}, \sqrt{3}, -2, -2.4$
   B. $-\frac{3}{2}, -2, -2.4, 1.25, \sqrt{3}$
   C. $\sqrt{3}, 1.25, -\frac{3}{2}, -2, -2.4$
   D. $-2.4, -2, -\frac{3}{2}, 1.25, \sqrt{3}$
   E. $1.25, -2, -2.4, \sqrt{3}, -\frac{3}{2}$

2. Identify the property that is illustrated by the statement $7(9 - 4) = 7(9) - 7(4)$.
   A. Associative property of multiplication
   B. Closure property of multiplication
   C. Commutative property of addition
   D. Commutative property of multiplication
   E. Distributive property

3. What is the value of $3x^2 + 5x - 9$ when $x = -4$?
   A. $-41$  
   B. $-37$  
   C. $19$  
   D. $59$  
   E. $77$

4. What is the solution of $-4(x - 8) = 2x + 2$?
   A. $\frac{5}{2}$  
   B. $5$  
   C. $\frac{17}{6}$  
   D. $30$  
   E. $34$

5. It takes you 12 minutes to weed one flower bed and it takes your brother 16 minutes to do the same amount of work. How long does it take the two of you to finish weeding if your yard has 7 flower beds?
   A. 4 min  
   B. 28 min  
   C. 48 min  
   D. 98 min  
   E. 196 min

6. For each candle sold $c$, $5$ is donated to a charity. For each roll of wrapping paper sold $w$, $3$ is donated. If $t$ represents the total amount donated to the charity, which equation do you obtain when you solve your model for $c$?
   A. $\frac{t - 3w}{5} = c$  
   B. $t - 3w = 5c$  
   C. $5(t - 3w) = c$  
   D. $\frac{t - 5c}{3} = w$  
   E. $t + \frac{3w}{5} = c$

7. Your new workout regimen includes running and 20 minutes of weight training each day. The time spent running increases following the pattern in the table. Approximately how many minutes should you set aside for exercise on day 30?
<table>
<thead>
<tr>
<th>Day</th>
<th>Running time</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>6</td>
<td>10</td>
</tr>
<tr>
<td>10</td>
<td>15</td>
</tr>
<tr>
<td>14</td>
<td>20</td>
</tr>
</tbody>
</table>
   A. 20 min  
   B. 24 min  
   C. 35 min  
   D. 40 min  
   E. 60 min

8. You rollerblade for 45 minutes along a 3 mile trail. What is your average speed in miles per hour?
   A. $-4$ mi/h  
   B. $0.25$ mi/h  
   C. $2.25$ mi/h  
   D. $4$ mi/h  
   E. $15$ mi/h

9. What is the value of $x$?
   A. $\frac{1}{2}$  
   B. $\frac{2}{3}$  
   C. 2  
   D. 4  
   E. $\frac{9}{2}$
10. What compound inequality is graphed below?

-3 -2 -1 0 1 2 3 4 5

(A) $0 < x < 2$
(B) $x < 0$ or $x \geq 2$
(C) $x > 0$ or $x \leq 2$
(D) $0 < x \leq 2$
(E) $x < 0$ and $x \geq 2$

11. What is the solution to $3x - 5 \leq x + 7$?

(A) $x \leq 1$
(B) $x < 3$
(C) $x \leq 3$
(D) $x \leq 6$
(E) $x \geq 6$

12. What is the solution to $4x + 3 \leq 2x - 7$?

(A) $x < -5$
(B) $x \leq -5$
(C) $x \leq -2$
(D) $x \leq 5$
(E) $x > 5$

13. You invest $P = \$100$ for $t = \frac{1}{4}$ year. If you want to earn between $\$8$ and $\$12$ interest $I$, inclusive, what interest rates $r$ are acceptable? Use the formula $I = Prt$.

(A) $0.32 < r < 0.48$
(B) $r < 0.32$ or $r > 0.48$
(C) $0.48 \leq r \leq 0.32$
(D) $r \leq 0.32$ or $r \geq 0.48$
(E) $0.32 \leq r \leq 0.48$

14. What is the solution to $|4x + 3| \leq 11$?

(A) $x \leq 2$
(B) $-\frac{7}{2} \leq x \leq 2$
(C) $x \geq -\frac{7}{2}$
(D) $2 \leq x \leq -\frac{7}{2}$
(E) $x \leq -\frac{7}{2}$ or $x \geq 2$

15. The video game store sells used games for $\$9$ each. You buy a new controller and some games. If the expression $9n + 24$ represents the amount you spent in dollars and $n$ is the number of games you bought, what is the cost in dollars of the new controller?

16. The formula for the area $A$ of a triangle is $A = \frac{1}{2}bh$ where $b$ is the base and $h$ is the height. What is the length of the base of the triangle when the area is 12 square centimeters?

17. What is the extraneous solution to $|5x - 3| = -7x$?