Problem Set #5

Name:

1. A forest owned by the Jumbo Lumber Corporation contains 6,490 trees. If Jumbo Lumber cuts down 49 trees every day, which function can be used to find the number of trees, n, left in the forest after t days?

- **A.** $n(t) = 6{,}490 - 49t$
- **B.** $n(t) = (6{,}490-49)t$
- **C.** $n(t) = 6{,}490t - 49$
- **D.** $n(t) = 6{,}490 + 49t$

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2. $\sqrt[3]{4} = ?$

- **A.** $4^{\frac{1}{3}}$
- **B.** $\frac{4}{3}$
- **C.** $\frac{1}{4^3}$
- **D.** $3^{\frac{1}{4}}$

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3. Find the value of $f(-2)$ for the function below.

$$f(x) = 6x + 11$$

- **A.** -1
- **B.** 23
- **C.** -2.17
- **D.** -23

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4. Find the value of $g(8)$ for the function below.

$$g(x) = 2x - 39$$

- **A.** -23
- **B.** 16
- **C.** 55
- **D.** 23.5

5. Find the value of $g(8)$ for the function below.

$$g(x) = \frac{7}{8}x - \frac{3}{8}$$

- A. $\frac{59}{8}$
- B. $\frac{53}{8}$
- C. $\frac{67}{7}$
- D. 7

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6. Solve: $-\frac{1}{5}x + 50 = -x + 10$

- A. $x = -50$
- B. $x = 50$
- C. $x = \frac{125}{2}$
- D. $x = -\frac{125}{2}$

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7. Solve: $-8x + 8 = -2x + 32$

- A. $x = -4$
- B. $x = 0$
- C. $x = 4$
- D. $x = -\frac{16}{3}$

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8. $\sqrt[4]{3} = ?$

- A. $3^{\frac{1}{4}}$
- B. $4^{\frac{1}{3}}$
- C. $\frac{1}{3^4}$
- D. $\frac{3}{4}$

9. Express the terms of the following geometric sequence recursively.

$$8\ ,\ -16\ ,\ 32\ ,\ -64\ ,\ 128\ ,\ \ldots$$

○ **A.** First Term $= 8$ and Next $= 4 \times \text{Now} - 48$

○ **B.** First Term $= 8$ and Next $= 8 - 3 \times \text{Now}$

○ **C.** First Term $= 8$ and Next $= \text{Now} - 24$

○ **D.** First Term $= 8$ and Next $= -2 \times \text{Now}$

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10. Solve the following equation for x.

$$ax + b = c$$

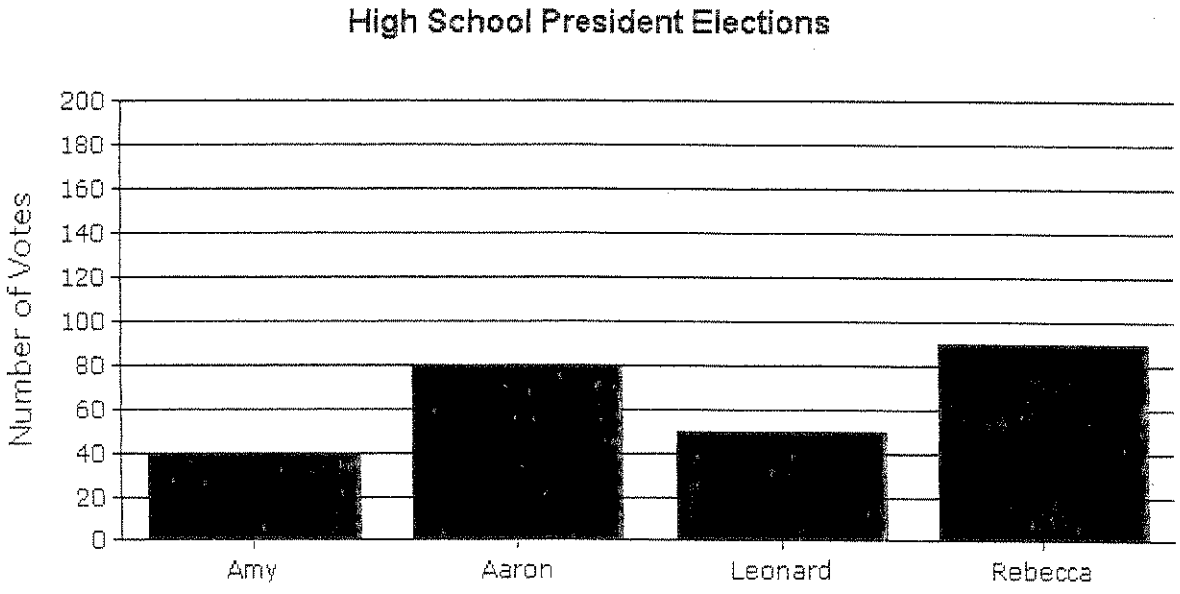
○ **A.** $x = \frac{b - c}{a}$

○ **B.** $x = \frac{c - b}{a}$

○ **C.** $x = \frac{c + b}{a}$

○ **D.** $x = a(c - b)$

11.



What is the difference between the highest percent of votes received by a student and the lowest percent of votes received by a student? Round to the nearest whole percent if needed.

○ **A.** 20%

○ **B.** 15%

○ **C.** 4%

○ **D.** 35%

12. Lisa uses the childcare facilities at her gym. Her monthly dues are \$47, and childcare is \$5 per visit. This month, she does not wish to spend more than \$77 for both dues and childcare. If x represents the number of times she can use childcare services, which of the following inequalities symbolizes this situation?

- **A.** $\$47x + \$5 \geq \$77$
- **B.** $\$5x + \$47 \geq \$77$
- **C.** $\$47x + \$5 \leq \$77$
- **D.** $\$5x + \$47 \leq \$77$