

Mini Assessment Topic 1: Solving Linear Equations Name: \_\_\_\_\_

<p>1. <b>True or False:</b> The numbers are ordered correctly from least to greatest: <math>\{-3.14, \sqrt{12}, -3.25\}</math> <b>Write ONE sentence to explain WHY.</b></p>	<p>2. Order the numbers from <b>least to greatest:</b> <math>\{0, \frac{25}{9}, -\sqrt{9}, -\frac{3}{4}, \sqrt{25}\}</math></p>
<p>3. Evaluate: <math>1 + (-2 - 5)^2 + (14 - 17) \cdot 4</math></p>	<p>4. Evaluate: <math>\{(-5 + 1) \div 2\}^3 - 7</math></p>
<p>5. Solve: <math>x - 5 = 15</math></p>	<p>6. Solve: <math>6 + b = -2</math></p>
<p>7. Solve: <math>\frac{a}{4} = 1</math></p>	<p>8. Solve: <math>8w = -32</math></p>
<p>9. Solve: <math>5(x + 4) - 3x = 14</math></p>	<p>10. Solve: <math>3w - 5 = 1</math></p>

11. Solve:

$$2(m - 8) = -2$$

12. Solve:

$$-2b - 7 + 4 = 4 - 2b - 7$$

13. Solve:

$$1 - 6f - 3 = 2 - 8f + 16$$

14. Solve:

$$\frac{3}{4}x = 12$$

15. Solve:

$$27 - 6x = 39$$

16. Solve:

$$-6(a - 3) = 11 - 7a$$

17. Solve:

$$4h + 2(h - 5) = 3(2h - 4)$$

18. Solve:

$$18 = 7x + 6 - 5x$$

19. David, Margaret, and Stephen are debating the solution to the problem below:

$$-2(x - 5) = 4\left(\frac{1}{2}x + 1\right)$$

David: *"I believe the problem has no solutions."*

Margaret: *"I believe the problem has infinite solutions."*

Stephen: *"I believe the problem has one solution."*

Determine which person is correct. Provide evidence and rationale behind your reasoning.

Explanation:

20. Cian submitted this solution on his test, in response to the problem  $\frac{x}{6} + 3 = -18$ :

Find Cian's error below and explain it in complete sentences.

$$\begin{array}{r} \frac{x}{6} + 3 = -18 \\ \quad -3 \quad -3 \\ \hline 6 \bullet \frac{x}{6} = -15 \bullet 6 \\ x = -90 \end{array}$$

Explanation: