

Name: \_\_\_\_\_ / Date: \_\_\_\_\_

**Mathematics 9**  
**Unit 6 Solving Linear Equations Practice Test**

**Part A: Multiple Choice – Circle your answer.**

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1. Solve for “ $a$ ” in the equation  $36 - 2a = -8$

a.  $a = -46$       b.  $a = -22$       c.  $a = 22$       d.  $a = 44$

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2. The formula for the area of a rectangle is  $A = l w$ , where  $l$  represents the length and  $w$  represents the width. A rectangle whose length is 8 cm has an area of  $104 \text{ cm}^2$ . Determine the width of this rectangle.

a. 10 cm      b. 13 cm      c. 14 cm      d. 18 cm

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3. Solve for  $x$ :  $4x - 3 = \frac{7}{3} - \frac{4x}{3}$

a.  $x = \frac{1}{8}$       b.  $x = \frac{2}{3}$       c.  $x = 1$       d.  $x = 2$

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4. Which expression is equivalent to  $\frac{x+4}{5}$

a.  $5(x+4)$       b.  $\frac{1}{5}(x+4)$       c.  $x+4 \div 5$       d.  $5x+0.8$

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5. The length of a rectangular field is 7 metres greater than its width. If you used  $w$  to represent the width, what expression would you use for the length?

a.  $w + 7$       b.  $w - 7$       c.  $7w$       d.  $\frac{w}{7}$

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6. 15% of a number is 12. What is the number?

a. 0.8      b. 1.8      c. 8      d. 80

7.  $x = 5$  is a solution to which equation(s) in the chart below.

I	$-3x + 12 = 42$
II	$3x + 20 = 5(x + 6)$
III	$6x + 20 = 4x + 30$
IV	$\frac{1}{3}x + 3 = 5$
V	$6x = 30$

a. II, III

b. III, V

c. I, IV

d. II, V

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**Part B: Written Response** – Show all work in a neat and organized manner for full marks.

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1. Solve each of the following equations

a.  $10x = -40$

b.  $\frac{8}{x} = 32, x \neq 0$

c.  $24h - 9 = 15$

d.  $26 = 2 - 6t$

e.  $5x + 6 = 2(x + 6)$

f.  $6u + 7 - 3u = 8 + 5u - 11$

$$g. -2(m+10) - 7(4-2m) = 0$$

$$h. \frac{m}{6} - 5 = \frac{1}{2}m$$

2. Transfer your solutions from #1e and #1g. Show a check for each solution.

a. #1e Answer: \_\_\_\_\_ b. #1g Answer: \_\_\_\_\_

Check #1e:  $5x + 6 = 2(x + 6)$

Check #1g:  $-2(m+10) - 7(4-2m) = 0$

3. Four more than three times a number is 49.

a. Write an equation to represent the statement.

b. Solve the equation.

4. Tim is applying for a new job in retail sales.
- Road Runner Clothing and Accessories pays \$100 a day plus 5% of his total sales. Write an expression to represent the total daily pay at Road Runner Clothing and Accessories.
  - Blue Jag Boutique pays \$75 a day plus 10% of his total sales. Write an expression to represent the total daily pay at Blue Jag Boutique.
  - How much does Tim need to sell for each job to pay the same daily amount?
5. The sum of two consecutive integers is 503.
- Write an equation to represent the statement
  - Solve the equation to find the two integers.