

Name _____

Date _____

$$6) 7x^2 + 2x - 2 = 18$$

Identify by inspection whether the given equation is a linear equation in one variable. Explain your answer.

$$1) 4x + 15 = 5$$

$$7) \frac{6}{x} + 24x = 4$$

$$2) 5x^2 + 6x - 9 = 53$$

$$8) -60x + 80y = 14$$

$$3) 6x^2 + 4x - 7 = 48$$

$$9) \frac{8}{x} + 56x = 7$$

$$4) 5(x - 9) + 7x - 4 = 104$$

$$10) -150x + 140y = 29$$

$$5) 5(x - 3) + 9x - 2 = 40$$

Determine if the given value is a solution to the linear equation.

11) $3m + 9 = 32, m = 7$

12) $3m + 9 = 17, m = 2$

13) $6m + 5 = 55, m = 8$

14) $4y + 4(y - 4) = 48, y = 8$

15) $6y + 8(y - 6) = 78, y = 9$

16) $7x + 7(-3x - 6) = -49 - 7x, x = 1$

17) $\frac{1}{3}x + 2 = \frac{1}{6}x + \frac{4}{3}, x = -12$

18) $-0.08y + 0.11(100 - y) = 0.31y, y = 22$

19) $3y + 8(y - 3) = 31, y = 5$

20) $-5x + 3(-2x - 2) = -10 - 7x, x = 1$

21) $\frac{1}{5}x + \frac{6}{5} = \frac{1}{7}x + \frac{8}{7}, x = -2$

22) $0.05y + 0.15(2000 - y) = 0.40y, y = 600$

Answer Key

Testname: 016ALGEBRAWS04V01

- 1) Yes. This is a linear equation in one variable because the exponent on x is positive 1.
- 2) No. This is not a linear equation in one variable because the highest power of x is 2.
- 3) No. This is not a linear equation in one variable because the highest power of x is 2.
- 4) Yes. This is a linear equation in one variable because the highest power of x is 1.
- 5) Yes. This is a linear equation in one variable because the highest power of x is 1.
- 6) No. This is not a linear equation in one variable because the highest power of x is 2.
- 7) No. This is not a linear equation in one variable because there is an x in the denominator.
- 8) No. This is not a linear equation in one variable because the equation contains both x and y.
- 9) No. This is not a linear equation in one variable because there is an x in the denominator.
- 10) No. This is not a linear equation in one variable because the equation contains both x and y.
- 11) No
- 12) No
- 13) No
- 14) Yes
- 15) Yes
- 16) Yes
- 17) No
- 18) Yes
- 19) Yes
- 20) Yes
- 21) No
- 22) Yes