Algebra

Unit 2 Practice Test Answers

1) $y + 6 = 15$

$-6 \quad -6$

$y = 9$

2) $27 - \frac{1}{2}x = 12$

$-27 \quad -27$

$-\frac{1}{2}x = -15$

$-2 \cdot -\frac{1}{2}x = -15 \cdot -2$

$x = 30$

3) $3.1m - 6 = 2.3$

$+6 \quad +6$

$3.1m = 8.3$

$\frac{3.1m}{3.1} = \frac{8.3}{3.1}$

$m = 2.7$

4) $V = \ell wh$

$\frac{V}{wh} = \frac{\ell wh}{wh}$

$\frac{V}{wh} = \ell$

5) $3x + 4x - 8 = 57$

$7x - 8 = 57$

$+8 \quad +8$

$7x = 65$

$\frac{7x}{7} = \frac{65}{7}$

$x = 9.3$

6) $\frac{1}{3}(f - 18) = 5$

$\frac{1}{3}f - \frac{18}{3} = 5$

$\frac{1}{3}f - 6 = 5$

$+6 \quad +6$

$\frac{1}{3}f = 11$

$3 \cdot \frac{1}{3}f = 11 \cdot 3$

$f = 33$

7) $2(x - 3) = 7(2x + 4)$

$2x - 6 = 14x + 28$

$-2x \quad -2x$

$-6 = 12x + 28$

$-28 \quad -28$

$-34 = 12x$

$\frac{-34}{12} = \frac{12x}{12}$

$x = -\frac{34}{12}$

$x = -\frac{17}{6}$

8) $6(3x+2) = -3(-6x-4)$

$18x + 12 = 18x + 12$

$-18x \qquad -18x$

$12 = 12$ identity

9) $2a + 4 = 2(a+1)$

$2a + 4 = 2a + 2$

$-2a \qquad -2a$

$4 = 2$ no solutions

10) $\{38, 22, 53, 54, 40, 41, 36\}$

re-order: $\{22, 36, 38, 40, 41, 53, 54\}$

Mean $= \frac{22+36+38+40+41+53+54}{7} = \frac{284}{7}$

$= 40.6$

Median $= 40$

Mode $=$ None

Range $= 54 - 22 = 32$

11)

4	0, 3, 3, 8
5	1, 5, 6, 6, 7
6	2, 3, 4

~~40~~, ~~43~~, ~~43~~, ~~48~~, ~~51~~, 55, 56, ~~56~~, ~~57~~, ~~62~~, ~~63~~, ~~64~~

Median $= \frac{55+56}{2} =$ 55.5

12) $-3(x+6) = -25$

$-3x - 18 = -25$

$+18 \quad +18$

$-3x = -7$

$\frac{-3x}{-3} = \frac{-7}{-3}$

$x = \frac{7}{3}$

13) Median = ~~17.5~~ 19

Range = ~~22 - 14 = 8~~ 25 - 13 = 12

Lower Quartile = 15

Upper Quartile = 23.5