

Solving Equations with Multiple Variables

Worksheet Answer Key

Like Solving Equations with One Variable, But More Fun

1. $4x - 8y = 16$. Find y when $x = 2$.

$$y = -1$$

$$l = \frac{3p-2w}{2p-3w+2}$$

2. $5z + 3y = 25$. Find z when $y = 4$.

$$z = \frac{13}{5}$$

7. $x(x^2 + 2) = 11$. Solve for x^3 .

$$x^3 = 11 - 2x$$

3. $z^2 + \sqrt{x} + 36 = 0$. Find z when $x = 9$.

No real solutions

8. $h(b_1 + b_2) = 2A$. Solve for b_1 .

$$b_1 = \frac{2A-hb_2}{h}$$

4. $x^2 + 2y = 40$. Find x when $y = 5$.

$$x = \pm\sqrt{30}$$

9. $\sqrt{u^2 + v^2} = 2uv$. Solve for v^2 .

$$v^2 = \frac{u^2}{4u^2-1}$$

5. $z^2 + 4(z + 2) - 6 = 8z$. Solve for z^2 .

$$z^2 = 4z - 2$$

10. The width of a rectangle is twice the length. If its area is 32 cm^2 , find the length.

$$(l)(2l) = 32 \implies l = 4 \text{ cm.}$$

6. $3(p + lw) = 2(l + pl + w)$. Solve for l .

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