Solve each equation for the given variable.

Ex. 1: $ax + by = c$; $y =$

$3y + 41 = 20$

$$-ax \qquad -ax$$

$$by = c - ax$$

$$\frac{by}{b} = \frac{-ax + c}{b}$$

$$y = \frac{-ax + c}{b} = \frac{-ax}{b} + \frac{c}{b}$$

Ex. 2: $d = \frac{a}{b}$; $a = bd$

b. $d = \frac{\textcircled{a}}{b} \cdot b$

$$bd = a$$

Ex. 3: $I = prt; t =$

$$\frac{I}{pr} = \frac{p \cdot r \cdot t}{pr}$$

$$\frac{I}{pr} = t$$

$$\boxed{t = \frac{I}{pr}}$$

Ex. 4: $P = 2w + 2l; w =$

$$P = 2w + 2l$$
$$\underline{-2l \qquad\qquad -2l}$$
$$\frac{P - 2l}{2} = \frac{2w}{2}$$

$$\frac{P}{2} - l = w$$

$$\boxed{w = \frac{P}{2} - l}$$

Ex. 5: $W = \dfrac{x - y}{z}; x =$

$$zW = x - y$$
$$\underline{+y \qquad +y}$$
$$zw + y = x$$

$$\boxed{x = zw + y}$$
$$\boxed{x = wz + y}$$
$$\boxed{x = y + wz}$$
$$\boxed{x = y + zw}$$

Ex. 6: $A = \dfrac{1}{2}bh; \quad b = \boxed{}$

$$2 \cdot A = \dfrac{1}{2} \cdot b \cdot h \cdot \dfrac{2}{1}$$

$$\dfrac{2A}{h} = \dfrac{bh}{h}$$

$$\boxed{b = \dfrac{2A}{h}}$$

Ex. 7: $6bvp = 48; \quad v =$

$$\dfrac{6bvp}{6bp} = \dfrac{48}{6bp}$$

$$V = \dfrac{48}{6bp} = \dfrac{8}{bp} \qquad \boxed{V = \dfrac{8}{bp}}$$

Ex. 8: $15rw = 3; \quad w = \boxed{\dfrac{1}{5r}}$

$$\dfrac{15rw}{15r} = \dfrac{3}{15r}$$

$$W = \dfrac{3}{15r} = \boxed{\dfrac{1}{5r}} = \dfrac{.2}{r}$$

Change to slope-intercept form: $y = mx + b$

Ex. 9: $4x + 2y = -8$

$$-4x \qquad -4x$$

$$\frac{2y}{2} = \frac{-4x}{2} - \frac{8}{2}$$

$$\boxed{y = -2x - 4}$$

Ex. 10: $2x - 3y = 12$

$$-2x \qquad -2x$$

$$\frac{-3y}{-3} = \frac{-2x}{-3} + \frac{12}{-3}$$

$$\boxed{y = \frac{2}{3}x - 4}$$