

Name:

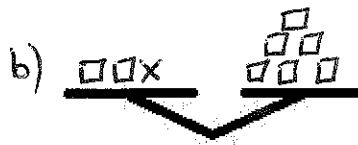
Block:

## Algebra - Scale Balancing

Create an algebraic equation for each balance diagram, then solve your equation for the unknown. Show all of your steps!



$$\begin{aligned} x + 3 &= 5 \\ -3 &\quad -3 \\ \hline x &= 2 \end{aligned}$$



$$\begin{aligned} 2 + x &= 6 \\ -2 &\quad -2 \\ \hline x &= 4 \end{aligned}$$



$$\begin{aligned} 6 &= \text{smiley} + 1 \\ -1 &\quad -1 \\ \hline 5 &= \text{smiley} \end{aligned}$$



$$\begin{aligned} 2n + 2 &= 6 \\ -2 &\quad -2 \\ \hline 2n &= 4 \\ \div 2 &\quad \div 2 \\ \hline n &= 2 \end{aligned}$$



$$\begin{aligned} 7 &= 3m + 1 \\ -1 &\quad -1 \\ \hline 6 &= 3m \\ \div 3 &\quad \div 3 \\ \hline 2 &= m \end{aligned}$$



$$\begin{aligned} 2y + 3 &= 6 \\ -3 &\quad -3 \\ \hline 2y &= 3 \\ y &= \frac{3}{2} = 1.5 \end{aligned}$$



$$\begin{aligned} 2* + 4 &= 6 \\ -4 &\quad -4 \\ \hline 2* &= 2 \\ * &= 1 \end{aligned}$$



$$\begin{aligned} 4x &= 8 \\ \div 4 &\quad \div 4 \\ \hline x &= 2 \end{aligned}$$



$$\begin{aligned} n + 4 &= 7 \\ -4 &\quad -4 \\ \hline n &= 3 \end{aligned}$$

$$j) \quad \underbrace{xxx \square}_{3x+2} \quad \underbrace{\square\square\square}_{3}$$

$$3x + 2 = 3$$

$$\quad -2 \quad -2$$

$$3x = 1$$

$$\div 3 \quad \div 3$$

$$x = \frac{1}{3}$$

$$k) \quad \underbrace{\overset{\square}{\circ} \overset{\square}{\circ} \circ}_{2\circ+3} \quad \underbrace{\overset{\square}{\square} \overset{\square}{\square} \square}_{6}$$

$$2\circ + 3 = 6$$

$$\quad -3 \quad -3$$

$$2\circ = 3$$

$$\div 2 \quad \div 2$$

$$\circ = \frac{3}{2} = 1.5$$

$$l) \quad \underbrace{mm\square}_{2m+1} \quad \underbrace{m\square\square}_{m+3}$$

$$2m + 1 = m + 3$$

$$\quad -m \quad -m$$

$$m + 1 = 3$$

$$\quad -1 \quad -1$$

$$m = 2$$

$$m) \quad \underbrace{yyy\square}_{3y+1} \quad \underbrace{yy\square\square}_{2y+3}$$

$$3y + 1 = 2y + 3$$

$$\quad -2y \quad -2y$$

$$y + 1 = 3$$

$$\quad -1 \quad -1$$

$$y = 2$$

$$n) \quad \underbrace{\overset{\square}{\square} \overset{\square}{\square} \square}_{2*\+3} \quad \underbrace{***\square}_{3*\+1}$$

$$2* + 3 = 3* + 1$$

$$\quad -2* \quad -2*$$

$$3 = * + 1$$

$$\quad -1 \quad -1$$

$$2 = *$$

$$o) \quad \underbrace{nn\square}_{2n+1} \quad \underbrace{n\square\square\square}_{n+4}$$

$$2n + 1 = n + 4$$

$$\quad -n \quad -n$$

$$n + 1 = 4$$

$$\quad -1 \quad -1$$

$$n = 3$$

$$p) \quad \underbrace{x\square\square\square}_{x+6} \quad \underbrace{xxx\square}_{3x+2}$$

$$x + 6 = 3x + 2$$

$$\quad -x \quad -x$$

$$6 = 2x + 2$$

$$\quad -2 \quad -2$$

$$4 = 2x$$

$$\div 2 \quad \div 2$$

$$2 = x$$

$$q) \quad \underbrace{n\square\square}_{n+4} \quad \underbrace{nn}_{2n}$$

$$n + 4 = 2n$$

$$\quad -n \quad -n$$

$$4 = n$$

$$r) \quad \underbrace{mm\square}_{m+4} \quad \underbrace{\square mm}_{m+3}$$