

4.6 Puzzle Time Worksheet

① $(0, 3)$
 $(1, 4)$
 $\frac{4-3}{1-0} = \frac{1}{1} = 1$

$y = mx + b$
 point used: $(0, 3)$

$3 = 0(1) + b$
 $3 = 0 + b$
 $3 = b$

$3 = b$
 $y = 1x + 3$ (H)

② $(0, 0)$
 $(5, -2)$
 $\frac{-2-0}{5-0} = \frac{-2}{5}$

$y = mx + b$
 point used: $(0, 0)$

$0 = -\frac{2}{5}(0) + b$
 $0 = 0 + b$
 $b = 0$

$y = -\frac{2}{5}x$ (A)

③ $(-2, 0)$
 $(0, 4)$
 $\frac{4-0}{0-(-2)} = \frac{4}{2} = 2$

$y = mx + b$
 point used: $(0, 4)$

$4 = 2(0) + b$
 $4 = 0 + b$
 $4 = b$

$4 = b$
 $y = 2x + 4$ (E)

④ $(-3, 2)$
 $(0, -3)$
 $\frac{-3-2}{0-(-3)} = \frac{-5}{3}$

point used: $(0, -3)$

$y = mx + b$
 $-3 = -\frac{5}{3}(0) + b$
 $-3 = 0 + b$
 $-3 = b$

$-3 = b$
 $y = -\frac{5}{3}x - 3$ (O)

⑤ $(-7, 4)$
 $(0, 4)$
 $\frac{4-4}{0-(-7)} = \frac{0}{7} = 0$

point used: $(0, 4)$

$y = mx + b$
 $4 = 0(0) + b$
 $4 = 0 + b$
 $b = 4$

$b = 4$
 $y = 4$ (E)

⑥ $(0, -8)$
 $(4, 8)$
 $\frac{8-(-8)}{4-0} = \frac{16}{4} = 4$

point used: $(0, -8)$

$y = mx + b$
 $-8 = 4(0) + b$
 $-8 = 0 + b$
 $-8 = b$

$-8 = b$
 $y = 4x - 8$ (T)

$$\textcircled{7} \begin{matrix} (0, -2) \\ (-5, -2) \end{matrix}$$

$$\frac{-2 - (-2)}{-5 - 0} = \frac{0}{-5} = 0$$

point used: $(0, -2)$

$$y = mx + b$$

$$-2 = 0(0) + b$$

$$-2 = 0 + b$$

$$-2 = b$$

$$y = 0x - 2$$

$$\boxed{y = -2} \quad \boxed{10}$$

$$\textcircled{8} \begin{matrix} (-12, -9) \\ (0, -3) \end{matrix}$$

$$\frac{-3 - (-9)}{0 - (-12)} = \frac{-3 + 9 - 6}{0 + 12} = \frac{12}{12} = 1$$

point used: $(0, -3)$

$$-3 = 1(0) + b$$

$$-3 = 0 + b$$

$$-3 = b$$

$$\boxed{y = \frac{1}{2}x - 3} \quad \boxed{N}$$

$$\textcircled{9} \begin{matrix} (0, 10) \\ (5, 0) \end{matrix}$$

$$\frac{0 - 10}{5 - 0} = \frac{-10}{5} = -2$$

point used: $(5, 0)$

$$0 = -2(5) + b$$

$$0 = -10 + b$$

$$+10 \quad +10$$

$$10 = b$$

$$\boxed{y = -2x + 10} \quad \boxed{T}$$

$$\textcircled{10} \begin{matrix} (-14, 12) \\ (0, 6) \end{matrix}$$

$$\frac{6 - 12}{0 - (-14)} = \frac{-6}{14} = -\frac{3}{7}$$

point used: $(0, 6)$

$$6 = -\frac{3}{7}(0) + b$$

$$6 = 0 + b$$

$$6 = b$$

$$\boxed{y = -\frac{3}{7}x + 6} \quad \boxed{H}$$

⑪ $(0, -6)$
 $(6, -24)$

$$\frac{-24 - (-6)}{6 - 0} = \frac{-24 + 6}{6} = \frac{-18}{6} = -3$$

point used: $(0, -6)$

$$-6 = -3(0) + b$$

$$-6 = 0 + b$$

$$-6 = b$$

$$y = -3x - 6 \quad |L$$

⑫ $(0, -15)$
 $(5, 0)$

$$\frac{0 - (-15)}{5 - 0} = \frac{0 + 15}{5 - 0} = \frac{15}{5} = 3$$

point used: $(5, 0)$

$$0 = 3(5) + b$$

$$0 = 15 + b$$

$$-15 = -15$$

$$-15 = b$$

$$y = 3x - 15 \quad |I$$

⑬ $y = 1x + 20$ ← cost of album
 ↑

Y

you don't know how many papers you are buying

⑭ $y = -8x + 300$ M
 ↑ losing 8 gal/min
 ↑ you already have 300 gal

⑮ $y = -12x + 180$ R
 ↑ going down @ 12 ft per sec
 ↑ starting @ 180 ft above ground