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Q(9) b $(\overset{x_1}{3}, \overset{y_1}{5})$, $(\overset{x_2}{0}, \overset{y_2}{4})$ (b)

(2) $y = mx + b$

(1) $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{4-5}{0-3} = \frac{-1}{-3} = \frac{1}{3}$

(4) $4 = \frac{1}{3}(0) + b$

(5) $4 = b$

(6) $y = \frac{1}{3}x + 4$

m, b

Q21) ① $(-1, 3)$ @ $(-3, 1)$

$x_1\ y_1$ $x_2\ y_2$

② $y = mx + b$

③ $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1-3}{-3+1} = \frac{-2}{-2} = 1$

$y_1\ m\ x_1$

④ $3 = 1(-1) + b$

⑤ $3 = -1 + b$

⑥ $4 = b$

⑦ $y = 1 \cdot x + 4$ (m, b)

Q22 ① $(-7, 5)$ @ $(3, 0)$ ⑥

② $y = mx + b$

③ $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{0 - 5}{3 - -7} = \frac{-5}{10} = \frac{-1}{2}$

④ $0 = -\frac{1}{2}(3) + b$ using point (1)

⑤ $0 = -\frac{3}{2} + b$

⑥ $\frac{3}{2} = b$

⑦ $y = -\frac{1}{2}x + \frac{3}{2}$

Q 24 | (0, −1) @ (x_1, y_1) | (5, 6) @ (x_2, y_2) ⑤

② $y = mx + b$

③ $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 - (-1)}{5 - 0} = \frac{7}{5}$

④ $y = mx + b$, use point @

⑤ $-1 = \frac{7}{5}(0) + b$ (m, y_1, x_1)

⑥ $-1 = b$

⑦ $y = \frac{7}{5}x - 1$ (m, b)

Q27

(a) $(2, 8)$ x_1, y_1 (b) $(-3, 6)$ x_2, y_2 $\frac{1}{5} \cdot \frac{2}{1} = \frac{4}{5}$

(1) $y = mx + b$ (2) $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{6 - 8}{-3 - 2} = \frac{-2}{-5} = \frac{2}{5}$

(3) $y = mx + b$, use point (a)

(4) $8 = \frac{2}{5}(2) + b$ (m, y_1, x_1) (5) $8 = \frac{4}{5} + b$

(6) $8 - \frac{4}{5} = b$ (7) $\frac{40}{5} - \frac{4}{5} = b$ (8) $\frac{36}{5} = b$

(9) $y = \frac{2}{5}x + \frac{36}{5}$ ← answer

① $8 - \frac{4}{5}$

② $7\frac{5}{5} - \frac{4}{5}$ ▷ rewrite 8 as $7\frac{5}{5}$

③ $7\frac{1}{5}$ ◁ $\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$