linear functions.

$$y = mx + b$$

Given: $(x_1, y_1), (x_2, y_2)$

slope: $\dfrac{y_2 - y_1}{x_2 - x_1} = m$

y-int: b
(when $x = 0$)

line l passes
$(1,5)$ and $(3,1)$
Find an eq. of l

$$m = \frac{5-1}{1-3} = \frac{4}{-2} = -2$$

$y = -2x + b$

$1 = -2(3) + b$

$1 = -6 + b$

$7 = b$

$$\boxed{y = -2x + 7}$$

Line k passes (-2, 1) and (4, 4).

Find an equation of k.

$$m = \frac{4-1}{4-(-2)} = \frac{3}{6} = \frac{1}{2}$$

$$y = \frac{1}{2}x + b$$

$$4 = \frac{1}{2}(4) + b$$

$$4 = 2 + b$$

$$2 = b$$

$$\boxed{y = \frac{1}{2}x + 2}$$

line n passes
(1,-1) and (3, 5)
Find an eq. of n.

$$\frac{5-(-1)}{3-1} = \frac{6}{2} = 3 = m$$

$y = 3x + b$

$5 = 3(3) + b$

$-9 \quad -9 \quad b = -4$

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

line A pass $(-1, 3)$

w/th y-int of 1. $\longrightarrow (0, 1)$

Find an eq. of A.

$y = mx + 1$

$3 = m(-1) + 1$

$3 = -m + 1$

$2 = -m \rightarrow \underline{m = -2}$

$\boxed{y = -2x + 1}$

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