

36. r.437

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Find the equation of the line

$$y = mx + b$$

parallel

$$x + 9y - 2 = 0 \text{ and}$$

having the same x-intercept as

$$2x - 9y + 2 = 0$$

Find m (the slope)

$$x + 9y - 2 = 0 - 9y$$

$$\frac{x-2}{-9} = \frac{-9y}{-9}$$

$$y = -\frac{1}{9}x + \frac{2}{9}$$

$$\therefore m = -\frac{1}{9}$$

$$\boxed{m = -\frac{1}{9}}$$

Step 2: ¹ find the x -intercept, $y=0$

$$2x - 9y + 27 = 0$$

$$2x - \cancel{9(0)} + 27 = 0$$

$$2x + 27 = 0$$

$\therefore$ the x -intercept
is $\left(-\frac{27}{2}, 0\right)$.

$$\frac{2x}{2} = -\frac{27}{2}$$

$x = -\frac{27}{2}$

Step 3: Find the y-intercept

$$y = mx + b$$

$$0 = \left(-\frac{1}{9}\right)\left(-\frac{27}{2}\right) + b$$

$$0 = \frac{27}{18} + b$$

$$0 = \frac{3}{2} + b$$

$$\left(-\frac{27}{2}, 0\right)$$

$$m = -\frac{1}{9}$$

$$b = -\frac{3}{2}$$

$$y = mx + b$$
$$y = -\frac{1}{9}x - \frac{3}{2}$$

$$18y = -\frac{1x^2}{9}x - \frac{3x^9}{2x^9}$$

$$+2x + 27 \quad +2x \quad -127$$

$$18y = -2x - 27$$

$2x + 18y + 27 = 0$ is the
Standard form equation