Exercise 26

For the following exercises, find the intercepts of the functions.

$$g(n) = -2(3n-1)(2n+1)$$

Solution

In order to find the y-intercept, set $n = 0$.

$$g(0) = -2(-1)(1) = 2$$

Therefore, the y-intercept is $(0, 2)$. To find the n-intercept(s), set $y = 0$ and solve the equation for n.

$$0 = -2(3n-1)(2n+1)$$

$$3n - 1 = 0 \quad \text{or} \quad 2n + 1 = 0$$

$$3n = 1 \quad \text{or} \quad 2n = -1$$

$$n = \frac{1}{3} \quad \text{or} \quad n = -\frac{1}{2}$$

Therefore, the n-intercepts are $\left(-\frac{1}{2}, 0\right)$ and $\left(\frac{1}{3}, 0\right)$.