

## Exercises:

1. **Find the point-slope form of the tangent line for the equation at the given point:**

(a)  $y = (x - 3)(x + 5)$  when  $x = 4$

(b)  $y = \sin(x)$  when  $x = \frac{\pi}{6}$

(c)  $y = \frac{x}{\sqrt{x^2 - 2x - 12}}$  when  $x = 5$

2. **Approximate the value at the given point:**

(a)  $y = \tan(x)$  when  $x = \frac{3\pi}{16}$

(b)  $y = 2\ln(x)$  when  $x = 3$  (hint:  $e \approx 2.713$ )

(c)  $y = \frac{1}{1 + e^x}$  when  $x = 0.5$