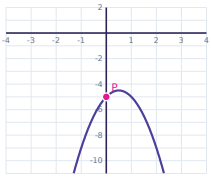
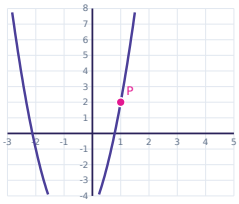
**Task card 1** Slope & Equation of a Tangent Line

Find the slope of the tangent line to $f(x) = -2x^2 + 2x - 5$ at $x = 0$.




**Task card 2** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = 3x^2 + 4x - 5$ at the point P(1, 2).

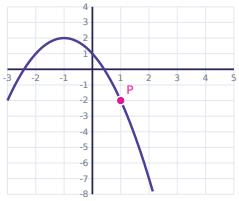



**Task card 3** Slope & Equation of a Tangent Line

At what x-value is the tangent line to $f(x) = 2x^2 + 8x - 7$ horizontal?

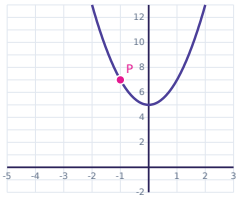
**Task card 4** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = -x^2 - 2x + 1$ at the point P(1, -2).




**Task card 5** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = 2x^2 + 5$ at the point P(-1, 7).




**Task card 6** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = 2x^2 - 5x$ at the point P(-2, 18).



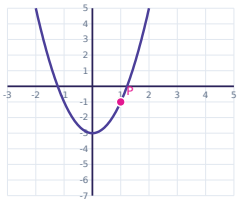
**Task card 7** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = x^2 + 4x + 2$ at the point P(1, 7).



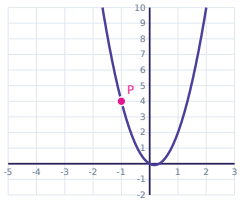

**Task card 8** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = 2x^2 - 3$ at the point P(1, -1).




**Task card 9** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = 3x^2 - x$ at the point P(-1, 4).

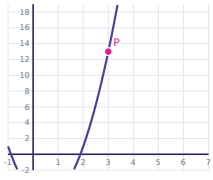



**Task card 10** Slope & Equation of a Tangent Line

At what x-value is the tangent line to $f(x) = 2x^2 + 16x + 5$ horizontal?

**Task card 11** Slope & Equation of a Tangent Line

Find the slope of the tangent line to $f(x) = 3x^2 - 3x - 5$ at $x = 3$.

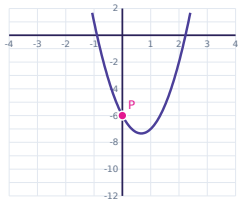



**Task card 12** Slope & Equation of a Tangent Line

Find the slope of the tangent line to $f(x) = x^3 + x^2 + 2x + 2$ at $x = 2$.

**Task card 13** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = 3x^2 - 4x - 6$ at the point P(0, -6).




**Task card 14** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = x^3 - 2x^2 + 4x - 2$ at the point P(1, 1).

**Task card 15** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = -x^3 + x^2 - 2$ at the point P(-3, 34).

**Task card 16** Slope & Equation of a Tangent Line

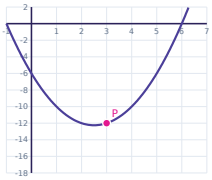
At what x-value is the tangent line to $f(x) = -2x^2 + 20x + 6$ horizontal?

**Task card 17** Slope & Equation of a Tangent Line

Find the slope of the tangent line to $f(x) = x^3 + 3x^2 - 6$ at $x = 3$.

**Task card 18** Slope & Equation of a Tangent Line

Find the slope of the tangent line to $f(x) = x^2 - 5x - 6$ at $x = 3$.



**Task card 19** Slope & Equation of a Tangent Line

At what x-value is the tangent line to $f(x) = -x^2 + 4x - 7$ horizontal?

**Task card 20** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = x^3 + 2x^2 - 5x - 4$ at the point P(0, -4).

**Task card 21** Slope & Equation of a Tangent Line

Find the slope of the tangent line to $f(x) = 3x^2 - x - 6$ at $x = -3$.




**Task card 22** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = 2x^2 + 2x + 1$ at the point P(2, 13).

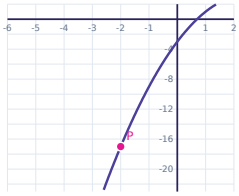



**Task card 23** Slope & Equation of a Tangent Line

At what x-value is the tangent line to $f(x) = 3x^2 - 6x + 1$ horizontal?

**Task card 24** Slope & Equation of a Tangent Line

Find the equation of the tangent line to $f(x) = -x^2 + 5x - 3$ at the point P(-2, -17).



# Slope & Equation of a Tangent Line Task Cards

Recording sheet · Grade 12 · Answer each question. Write tangent lines in the form y = mx + b.

Name: _____ Date: _____

Scan to check your answers

| | | | |
|---|---|---|---|
| 1 | 2 | 3 | 4 |
| 5 | 6 | 7 | 8 |
| 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 |
| 17 | 18 | 19 | 20 |
| 21 | 22 | 23 | 24 |

# Slope & Equation of a Tangent Line Task Cards: Answer Key

Grade 12 · Medium

The answers online

| | | |
|---|---|---|
| **1.** 2 | **2.** y = 10x - 8 | **3.** x = -2 |
| **4.** y = -4x + 2 | **5.** y = -4x + 3 | **6.** y = -13x - 8 |
| **7.** y = 6x + 1 | **8.** y = 4x - 5 | **9.** y = -7x - 3 |
| **10.** x = -4 | **11.** 15 | **12.** 18 |
| **13.** y = -4x - 6 | **14.** y = 3x - 2 | **15.** y = -33x - 65 |
| **16.** x = 5 | **17.** 45 | **18.** 1 |
| **19.** x = 2 | **20.** y = -5x - 4 | **21.** -19 |
| **22.** y = 10x - 7 | **23.** x = 1 | **24.** y = 9x + 1 |