Task card 1 Zeros & Multiplicity

List the zeros of $f(x) = (x + 4)^2(x + 3)^3$ in increasing order, separated by commas.

Task card 2 Zeros & Multiplicity

What is the multiplicity of the zero $x = 4$ of $f(x) = x^2(x - 4)^3$?

Task card 3 Zeros & Multiplicity

At $x = -2$, does the graph of $f(x) = -3(x + 4)(x + 2)^3(x - 2)^2$ cross or touch the x-axis? Write cross or touch.

Task card 4 Zeros & Multiplicity

List the zeros of $f(x) = 2(x + 4)^3(x - 1)^3(x - 4)^2$ in increasing order, separated by commas.

Task card 5 Zeros & Multiplicity

What is the multiplicity of the zero $x = 4$ of $f(x) = 2(x - 1)^3(x - 3)(x - 4)^3$?

Task card 6 Zeros & Multiplicity

At $x = 3$, does the graph of $f(x) = (x + 2)(x - 3)^2$ cross or touch the x-axis? Write cross or touch.

Task card 7 Zeros & Multiplicity

What is the degree of $f(x) = -3(x + 1)^2(x - 4)$?

Task card 8 Zeros & Multiplicity

What is the multiplicity of the zero $x = -4$ of $f(x) = -3x(x + 4)^2$?

Task card 9 Zeros & Multiplicity

List the zeros of $f(x) = 2x^3(x + 3)^2(x + 2)^2$ in increasing order, separated by commas.

Task card 10 Zeros & Multiplicity

What is the multiplicity of the zero $x = -2$ of $f(x) = -3(x + 2)^2(x + 1)$?

Task card 11 Zeros & Multiplicity

At $x = 0$, does the graph of $f(x) = -x(x + 4)^2(x - 2)^3$ cross or touch the x-axis? Write cross or touch.

Task card 12 Zeros & Multiplicity

List the zeros of $f(x) = -3(x + 5)(x + 4)^2(x - 2)^2$ in increasing order, separated by commas.

Task card 13 Zeros & Multiplicity

What is the multiplicity of the zero $x = -4$ of $f(x) = -3(x + 4)^3(x - 2)^3(x - 4)^2$?

Task card 14 Zeros & Multiplicity

At $x = 0$, does the graph of $f(x) = 2x^3(x + 4)$ cross or touch the x-axis? Write cross or touch.

Task card 15 Zeros & Multiplicity

What is the degree of $f(x) = -3(x + 3)^3(x - 3)(x - 5)$?

Task card 16 Zeros & Multiplicity

What is the multiplicity of the zero $x = 4$ of $f(x) = -x^3(x - 3)^2(x - 4)$?

Task card 17 Zeros & Multiplicity

List the zeros of $f(x) = -x^2(x + 4)^3(x + 1)$ in increasing order, separated by commas.

Task card 18 Zeros & Multiplicity

What is the multiplicity of the zero $x = 4$ of $f(x) = -(x + 2)^2(x - 3)^4(x - 4)$?

Task card 19 Zeros & Multiplicity

At $x = 1$, does the graph of $f(x) = 2(x + 6)^2(x - 1)^3(x - 5)$ cross or touch the x-axis? Write cross or touch.

Task card 20 Zeros & Multiplicity

What is the degree of $f(x) = (x + 6)^4(x + 2)^2(x + 1)$?

Task card 21 Zeros & Multiplicity

At $x = 5$, does the graph of $f(x) = x^4(x + 3)^4(x - 5)^3$ cross or touch the x-axis? Write cross or touch.

Task card 22 Zeros & Multiplicity

List the zeros of $f(x) = (x + 6)^3(x + 4)^4(x - 4)$ in increasing order, separated by commas.

Task card 23 Zeros & Multiplicity

List the zeros of $f(x) = (x + 3)(x + 1)^3(x - 1)^2$ in increasing order, separated by commas.

Task card 24 Zeros & Multiplicity

What is the multiplicity of the zero $x = 3$ of $f(x) = -(x + 2)^3(x - 1)(x - 3)^2$?

Zeros & Multiplicity Task Cards

Recording sheet · Grade 11 · Answer each question about the polynomial function.

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

Zeros & Multiplicity Task Cards: Answer Key

Grade 11 · Easy

The answers online

1. -4, -3	**2.** 3	**3.** cross
4. -4, 1, 4	**5.** 3	**6.** touch
7. 3	**8.** 2	**9.** -3, -2, 0
10. 2	**11.** cross	**12.** -5, -4, 2
13. 3	**14.** cross	**15.** 5
16. 1	**17.** -4, -1, 0	**18.** 1
19. cross	**20.** 7	**21.** cross
22. -6, -4, 4	**23.** -3, -1, 1	**24.** 2