

5.1.D5 – Finding Zeros of Polynomial Functions Circuit

Begin by completing the problem in cell #1. Search for your answer in the remaining cells. Put #2 in the problem blank: #____. Work that question and proceed in this manner until you complete the circuit.

For each of the problems below, factor to write the polynomial function in intercept form. Then use the Zero Product Property to find the REAL zeros.

<p>Answer: $-\frac{1}{2}, 0, \frac{8}{3}$</p> <p># 1 $f(x) = x^4 - 5x^2 + 4$</p>	<p>Answer: $-\frac{1}{3}$ & $\frac{7}{4}$</p> <p>#____ $f(x) = 2x^3 - 50x$</p>
<p>Answer: $-3, -2, 2$ & 3</p> <p>#____ $f(x) = 6x^2 + 15x - 36$</p>	<p>Answer: $-\frac{3}{2}, 0, \frac{1}{6}$</p> <p>#____ $f(x) = x^3 + 3x^2 - 4x - 12$</p>
<p>Answer: $-3, \frac{1}{2}, 3$</p> <p>#____ $f(x) = 5x^4 - 2x^2 - 3$</p>	<p>Answer: $-2, -1, 1$ & 2</p> <p>#____ $f(x) = 2x^4 - 26x^2 + 72$</p>

<p>Answer: -5, 0 & 5</p> <p>#_____ $f(x) = 12x^3 + 16x^2 - 3x$</p>	<p>Answer: $-2, \frac{1}{4}$ & 2</p> <p>#_____ $f(x) = 9x^4 - 37x^2 + 4$</p>
<p>Answer: -1 & 1</p> <p>#_____ $f(x) = 18x^3 - 39x^2 - 24x$</p>	<p>Answer: -4 & $\frac{3}{2}$</p> <p>#_____ $f(x) = 12x^2 - 17x - 7$</p>
<p>Answer: -3, -2, 2</p> <p>#_____ $f(x) = 4x^3 - x^2 - 16x + 4$</p>	<p>Answer: $-2, -\frac{1}{3}, \frac{1}{3}, 2$</p> <p>#_____ $f(x) = 4x^3 - 2x^2 - 36x + 18$</p>

Factor each sum/difference of two cubes completely.

$$2x^3 + 54$$

$$-10x^3 + 80$$

$$5x^3 - 625$$

$$32x^3 + 4$$