The Rational Zero Test

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Use the Rational Zero Test to list all possible rational zeros for the given function.

1) $f(x) = x^5 - 4x^2 + 2x + 3$ 1) _____

A) $\pm 1, \pm\frac{1}{3}$ B) $\pm 3, \pm\frac{1}{3}$ C) $\pm 1, \pm 3$ D) $\pm\frac{1}{4}, \pm\frac{3}{4}, \pm 3$

2) $f(x) = x^5 - 2x^2 + 3x + 6$ 2) _____

A) $\pm 1, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm\frac{1}{6}$ B) $\pm 1, \pm 3, \pm 2, \pm 6$

C) $\pm 1, \pm 3, \pm 2$ D) $\pm 1, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm\frac{1}{6}, \pm 3, \pm 2, \pm 6$

3) $f(x) = x^4 + 5x^3 - 4x^2 + 6x - 12$ 3) _____

A) $\pm 1, \pm 2, \pm 3, \pm 4, \pm 6, \pm 12$

B) $\pm\frac{1}{12}, \pm 1, \pm 12$

C) $\pm 1, \pm\frac{1}{2}, \pm\frac{1}{3}, \pm\frac{1}{4}, \pm\frac{1}{6}, \pm\frac{1}{12}$

D) $\pm\frac{1}{2}, \pm\frac{1}{3}, \pm\frac{1}{4}, \pm\frac{1}{6}, \pm\frac{1}{12}, \pm 1, \pm 2, \pm 3, \pm 4, \pm 6, \pm 12$

4) $f(x) = -2x^3 + 4x^2 - 2x + 8$ 4) _____

A) $\pm\frac{1}{8}, \pm\frac{1}{4}, \pm\frac{1}{2}, \pm 1, \pm 2, \pm 4, \pm 8$ B) $\pm\frac{1}{4}, \pm\frac{1}{2}, \pm 1, \pm 2, \pm 4, \pm 8$

C) $\pm\frac{1}{2}, \pm 1, \pm 2, \pm 4, \pm 8$ D) $\pm\frac{1}{2}, \pm 1, \pm 2, \pm 4$

5) $f(x) = 7x^3 - x^2 + 5$ 5) _____

A) $\pm\frac{1}{7}, \pm\frac{5}{7}, \pm 1, \pm 5$ B) $\pm\frac{1}{7}, \pm\frac{5}{7}, \pm 1, \pm 5, \pm 7$

C) $\pm\frac{1}{5}, \pm\frac{7}{5}, \pm 1, \pm 7$ D) $\pm\frac{1}{7}, \pm\frac{1}{5}, \pm 1, \pm 5, \pm 7$

6) $f(x) = 6x^4 + 4x^3 - 2x^2 + 2$ 6) _____

A) $\pm\frac{1}{2}, \pm\frac{3}{2}, \pm 1, \pm 2, \pm 3, \pm 6$ B) $\pm\frac{1}{6}, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm\frac{2}{3}, \pm 1, \pm 2$

C) $\pm\frac{1}{6}, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm\frac{2}{3}, \pm 1, \pm 2, \pm 3$ D) $\pm\frac{1}{6}, \pm\frac{1}{3}, \pm\frac{1}{2}, \pm 1, \pm 2$

Answer Key
Testname: THE RATIONAL ZERO TEST

1) C
2) B
3) A
4) C
5) A
6) B