

Trig

Review Ch. 4

Quiz 4.3-4.4 today

MCTest is Wed (1/2)-2Thurs. (1/2)

Determine whether each number is a root of $a^3 - 3a^2 - 3a - 4 = 0$. Explain.

11. 0

12. 4

13. -2

Find the discriminant of each equation and describe the nature of the roots of the equation. Then solve the equation by using the Quadratic Formula.

16. $2x^2 - 7x - 4 = 0$

Use the Remainder Theorem to find the remainder for each division. State whether the binomial is a factor of the polynomial.

22. $(x^3 - x^2 - 10x - 8) \div (x + 2)$

List the possible rational roots of each equation. Then determine the rational roots.

$$\pm 1, \pm 2 \quad \oplus \quad 2, 0$$

$$x = +2$$

$$x = +1$$

$$26. x^3 - 2x^2 - x + 2 = 0$$

$$\ominus \quad 1$$

$$x = -1$$

$$\frac{\pm 1, 2}{1, 5} = \pm \frac{1}{1}, \pm \frac{1}{5}, \pm \frac{2}{1}, \pm \frac{2}{5}$$

$$\begin{array}{r} -1 \overline{) 1 \ -2 \ -1 \ 2} \\ \underline{1 \ -1 \ 3 \ -2} \\ 1 \ -3 \ 2 \ 0 \end{array}$$

$$x^2 - 3x + 2$$

~~$$\begin{array}{r} 2 \\ -2 \quad -1 \\ -3 \end{array}$$~~

Find the number of possible positive real zeros and the number of possible negative real zeros for each function. Then determine the rational zeros.

34. $f(x) = x^3 - x^2 + 34x - 56$

$\oplus = 1$

$\ominus = 2, 0$

$$\begin{array}{r}
 x^2+4 \\
 \underline{x^2-9} \\
 -9x^2-36 \\
 x^4-4x^2-36
 \end{array}
 \begin{array}{l}
 \pm 2i \quad 3 \quad -3 \\
 x^4-5x^2-36 = 0
 \end{array}$$

$$\begin{array}{l}
 x-2i \\
 \underline{x+2i} \\
 x^2-4i^2
 \end{array}$$

$$x^2 - 4i^2$$

$$(x^2+4)$$

$$(x^2-9) = 0$$

$$\begin{array}{l}
 x-3 \\
 \underline{x+3} \\
 x^2-9
 \end{array}$$

$$x-2i=0 \quad x+2i=0$$

$$x=2i \quad x=-2i$$

$$x-3=0 \quad x+3=0$$

$$x=3 \quad x=-3$$