

Remainder theorem

If a polynomial^(s_x) is divided by $x-k$
then $f(k)$ is remainder.

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#13

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

$$k = 2$$

$$\begin{array}{r|rrrr} 2 & 2 & -3 & 1 & \\ & \downarrow & 4 & 2 & \\ \hline & 2 & 1 & 3 & \end{array}$$

Not a Factor: $(x-2)$
 $(x-2) (R \neq 0)$

R.T.: $f(2) = 2 \cdot 2^2 - 3(2) + 1$
 $f(2) = 2 \cdot 4 - 6 + 1$
 $f(2) = 3$

3 is the remainder of the $\div$ of $f(x)$ by $(x-2)$

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13 $\rightarrow$ 18 (modeled 13).

Both methods $\left\{ \begin{array}{l} \text{RT} \\ \text{Synthetic } \div \end{array} \right.$