

Topic: Long division of polynomials**Question:** Find the quotient.

$$\frac{x^2 - 26}{x - 5}$$

Answer choices:

A $x + 5 + \frac{1}{x - 5}$

B $x + 5 - \frac{1}{x + 5}$

C $x + 5 + \frac{1}{x + 5}$

D $x + 5 - \frac{1}{x - 5}$



Solution: D

$$\begin{array}{r}
 x + 5 - \frac{1}{x - 5} \\
 x - 5 \overline{) \begin{array}{l} x^2 + 0x - 26 \\ -(x^2 - 5x) \\ \hline 5x - 26 \\ -(5x - 25) \\ \hline -1 \end{array}}
 \end{array}$$



Topic: Long division of polynomials**Question: Find the quotient.**

$$\frac{12x^3 - 11x^2 + 9x + 18}{4x + 3}$$

Answer choices:

A $3x^2 - 5x + 6$

B $3x^2 + 5x + 6$

C $3x^2 + 5x - 6$

D $3x^2 - 5x - 6$



Solution: A

$$\begin{array}{r}
 3x^2 - 5x + 6 \\
 4x + 3 \overline{) 12x^3 - 11x^2 + 9x + 18} \\
 \underline{-(12x^3 + 9x^2)} \\
 -20x^2 + 9x \\
 \underline{-(-20x^2 - 15x)} \\
 24x + 18 \\
 \underline{-(24x + 18)} \\
 0
 \end{array}$$

