

Divide using long division.

1. $(2x^2 + 7x - 5) \div (x + 1)$

To start, divide $\frac{2x^2}{x} = 2x$

$$\begin{array}{r} 2x \\ x+1 \overline{) 2x^2 + 7x - 5} \\ \underline{2x^2 + 2x} \end{array}$$

Then, multiply $2x(x + 1) = 2x^2 + 2x$.

Now, you finish this problem. ☺

2. $(x^3 + x^2 - 14x - 27) \div (x + 3)$

3. $(2x^3 + 13x^2 + 16x + 5) \div (x + 5)$

4. $(x^2 + 9x + 22) \div (x + 2)$

5. $(6x^2 + 4x - 16) \div (2x - 2)$

6. $(8x^3 + 18x^2 + 7x - 3) \div (4x - 1)$

7. $(12x^2 + 18x - 17) \div (6x - 3)$

Determine whether each binomial is a factor of $x^3 - 3x^2 - 4x$.

8. $x - 4$

9. $x + 2$

10. $x - 3$

11. $x + 1$