

Polynomials & Factoring

Addition and Subtraction

1) Add or subtract the following polynomials:

a)
$$\begin{array}{r} 2n^4 - 3n^3 + 4n + 4 \\ + \quad -7n^4 + 3n^3 + n^2 - 5n \\ \hline \end{array}$$

b)
$$\begin{array}{r} 3x^5 - 4x^3 + 2x \\ + \quad -4x^4 + 2x^3 + 3x^2 + 5 \\ \hline \end{array}$$

c)
$$\begin{array}{r} 2n^4 - 3n^3 + 4n + 4 \\ - \quad (-7n^4 + 3n^3 + n^2 - 5n) \\ \hline \end{array}$$

d)
$$\begin{array}{r} 3x^5 - 4x^3 + 2x \\ - \quad (-4x^4 + 2x^3 + 3x^2 + 5) \\ \hline \end{array}$$

2) Multiply the following polynomials:

a) $(7n + 3)(-4n - 6) =$ _____

b) $(t + 4)^2 =$ _____

c) $(x - 8)(x + 8) =$ _____

d) $(4s - 1)(-9s + 1) =$ _____

e) $(-9y + 4)(y - 3) =$ _____

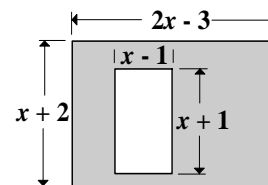
f) $(-5n - 9)(-6n - 9) =$ _____

g) $(7s + 2)^2 =$ _____

h) $(9t + 2)(9t - 2) =$ _____

3) What is the shaded area of the rectangle to the right?

Express the answer in terms of x .



4) Factor the following polynomials:

a) $n^2 + 11n + 28 =$ _____

b) $t^2 + 16t + 64 =$ _____

c) $x^2 - 2x - 1 =$ _____

d) $s^2 + 30s + 42 =$ _____

e) $24y^2 + 14y + 2 =$ _____

f) $56n^2 + 111n + 54 =$ _____

g) $49s^2 + 65 =$ _____

h) $t^2 - 25 =$ _____