

PRACTICE: multiplying & factoring polynomials

Simplify

1) $-6(\frac{1}{2}x^2 + 5x)$

2) $(-3x + 8)(2x - 1)$

Factor

3) $4x^2 + 52x + 168$

4) $28x^3 + 8x^2$

5) $p^2 + 17p + 72$

6) $x^2 + x - 72$

7) $n^2 - 9n + 8$

$\begin{array}{r} \text{multiply} \\ 8 \\ -1 \times -8 \\ -9 \\ \text{Add} \end{array} \quad (x-1)(x-8)$

8) $x^2 + x - 30$

$\begin{array}{r} \text{multiply} \\ -30 \\ 6 \times -5 \\ 1 \\ \text{Add} \end{array} \quad (x+6)(x-5)$

9) $x^2 - 9x - 10$

$\begin{array}{r} \text{multiply} \\ -10 \\ -10 \times 1 \\ -9 \\ \text{Add} \end{array} \quad (x-10)(x+1)$

10) $x^2 + 13x + 40$

$\begin{array}{r} 40 \\ 5 \times 8 \\ 13 \end{array} \quad (x+5)(x+8)$

11) $b^2 + 12b + 32$

$\begin{array}{r} 32 \\ 4 \times 8 \\ 12 \end{array} \quad (x+4)(x+8)$

12) $b^2 - 17b + 70$

$\begin{array}{r} 70 \\ -7 \times -10 \\ -17 \end{array} \quad \begin{array}{l} (x-7)(x-10) \\ (x-35)(x+2) \end{array}$

1 · 70

2 · 35

5 · 14

7 · 10