**Multiplying and Factoring Polynomials**

12

8 What is the area? A =

17

13 What is the area? A =

x - 2

9 What is the area? A =

x + 4

x - 1 What is the area? A =

|  |  |  |
| --- | --- | --- |
| **Arithmetic** |  | **Algebra** |
| Operation: **Multiplication**  2 x 3 = 6 |  | Operation: **Expansion**  3 x a = 3a  3 x (a + 1) = 3a + 3  (3 – a)(a + 1) = -a2 + 2a + 3 |
| Reverse (Undo) Operation: **Division**  6 ÷ 3 = 2 or 6 = 2 x 3 |  | Reverse (Undo) Operation: **Factoring**  3a + 3 = 3(a + 1)  -a2 + 2a + 3 = (3 – a)(a + 1) |

Factor each polynomial.

2x2 + 16x + 24

3x2 – 9x - 30