Answer Key · Lesson 9.3: Factoring ax² + bx + c

School Launch · Algebra I · Unit 9 · Worksheet A · for the parent

Key

1. $(x - 5)(3x - 7)$

Factor: $3x^2 - 22x + 35$.

2. $(x - 6)(5x - 7)$

Factor: $5x^2 - 37x + 42$.

3. $(x + 7)(3x - 5)$

Factor: $3x^2 + 16x - 35$.

4. $(x + 6)(5x + 3)$

1. Two numbers with product $ac = 90$ and sum $b = 33$: 3 and 30
2. Split the middle term: $5x^2 + 3x + 30x + 18$, then group
3. Factor completely: $(x + 6)(5x + 3)$

Factor: $5x^2 + 33x + 18$.

5. $(x - 2)(5x + 6)$

1. Two numbers with product $ac = -60$ and sum $b = -4$: -10 and 6
2. Split the middle term: $5x^2 - 10x + 6x - 12$, then group
3. Factor completely: $(x - 2)(5x + 6)$

Factor: $5x^2 - 4x - 12$.

6. $(x + 5)(3x - 1)$

1. Two numbers with product $ac = -15$ and sum $b = 14$: -1 and 15
2. Split the middle term: $3x^2 - x + 15x - 5$, then group
3. Factor completely: $(x + 5)(3x - 1)$

Factor: $3x^2 + 14x - 5$.

7. $(x - 7)(5x + 7)$

1. Two numbers with product $ac = -245$ and sum $b = -28$: -35 and 7
2. Split the middle term: $5x^2 - 35x + 7x - 49$, then group
3. Factor completely: $(x - 7)(5x + 7)$

Factor: $5x^2 - 28x - 49$.

8. $(x - 2)(3x - 2)$

1. Two numbers with product $ac = 12$ and sum $b = -8$: -6 and -2
2. Split the middle term: $3x^2 - 6x - 2x + 4$, then group
3. Factor completely: $(x - 2)(3x - 2)$

Factor: $3x^2 - 8x + 4$.

9. $(2x + 5)(3x - 5)$

1. Two numbers with product $ac = -150$ and sum $b = 5$: -10 and 15
2. Split the middle term: $6x^2 - 10x + 15x - 25$, then group
3. Factor completely: $(2x + 5)(3x - 5)$

Factor: $6x^2 + 5x - 25$.

10. $(2x - 3)(3x - 1)$

1. Two numbers with product $ac = 18$ and sum $b = -11$: -9 and -2
2. Split the middle term: $6x^2 - 9x - 2x + 3$, then group
3. Factor completely: $(2x - 3)(3x - 1)$

Factor: $6x^2 - 11x + 3$.