



Questions?
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Factor $6x^2 + 17x + 5$

Question

Answer

$$6x^2 + 17x + 5$$

$$ax^2 + bx + c$$

$$a = 6, c = 5$$

$$a \cdot c = 6 \cdot 5 = 30$$

$$30 = 15 \cdot 2$$

$$17 = 15 + 2 = b$$

$$6x^2 + 15x + 2x + 5$$

$$3x(2x + 5) + 1(2x + 5)$$

$$(2x + 5)(3x + 1)$$

10. Factorization

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Factor $15x^2 + 73x + 66$

Question

Answer

$$15x^2 + 73x + 66$$

$$ax^2 + bx + c$$

$$a = 15, \quad c = 66$$

$$a \cdot c = 15 \cdot 66 = 990$$

$$990 = 55 \cdot 18$$

$$73 = (55 + 18) = b$$

$$15x^2 + 55x + 18x + 66$$

$$5x(3x + 11) + 6(3x + 11)$$

$$(3x + 11)(5x + 6)$$

10. Factorization

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Factor $2x^2 + 5x + 3$

Question

Answer

$$2x^2 + 5x + 3$$

$$\downarrow \quad \quad \quad \downarrow$$

$$ax^2 + bx + c$$

$$a = 2, \quad c = 3$$

$$a \cdot c = 2 \cdot 3 = 6$$

$$6 = 2 \cdot 3$$

$$5 = (2 + 3) = b$$

$$(2x^2 + 2x) + (3x + 3)$$

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

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

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Factor $6x^2 + 11x - 35$

Question

Answer

$$6x^2 + 11x - 35$$

$$ax^2 + bx + c$$

$$a = 6, \quad c = -35$$

$$a \cdot c = 6 \cdot (-35) = -210$$

$$-210 = 21 \cdot (-10)$$

$$11 = (21 - 10) = b$$

$$6x^2 + 21x - 10x - 35$$

$$3x(2x + 7) - 5(2x + 7)$$

$$(2x + 7)(3x - 5)$$

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Factor $7x^2 - 16x - 15$

Question

Answer

$$7x^2 - 16x - 15$$

$$ax^2 + bx + c$$

$$a = 7, \quad c = -15$$

$$a \cdot c = 7 \cdot (-15) = -105$$

$$-105 = (-21) \cdot 5$$

$$-16 = (-21 + 5) = b$$

$$7x^2 - 21x + 5x - 15$$

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

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

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Factor $3x^2 - 13x - 10$

Question

Answer

$$3x^2 - 13x - 10$$

$$ax^2 + bx + c$$

$$a = 3, \quad c = -10$$

$$a \cdot c = 3 \cdot (-10) = -30$$

$$-30 = (-15) \cdot 2$$

$$-13 = (-15 + 2) = b$$

$$3x^2 - 15x + 2x - 10$$

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

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

10. Factorization

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