Answers are in file 'Factoring 1'

Factoring Trinomials (a = 1)

Da

Factor each completely.

1) $b^2 + 8b + 7$

2) $n^2 - 11n + 10$

$(n-1)(n-10)$

3) $m^2 + m - 90$

4) $n^2 + 4n - 12$

$(n+6)(n-2)$

5) $n^2 - 10n + 9$

6) $b^2 + 16b + 64$

$(b+8)(b+8)$

7) $m^2 + 2m - 24$

$(m+6)(m-4)$

8) $x^2 - 4x + 24$

Prime

9) $k^2 - 13k + 40$

$(k-5)(k-8)$

10) $a^2 + 11a + 18$

11) $n^2 - n - 56$

$(n-8)(n+7)$

12) $n^2 - 5n + 6$

$(n-3)(n-2)$

13) $b^2 - 6b + 8$

$(b-4)(b-2)$

14) $n^2 + 6n + 8$

$(n+4)(n+2)$

Factoring Trinomials when $a \neq 1$

$5x^2 - 13x + 6$

$5 \cdot 6 = 30$

$-3 + -10 = -13$

$(5x^2 - 3x)(-10x + 6)$

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

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

1 30
2 15
5 3
10

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

$12x^2 - 13x - 4$

$12 \cdot -4 = -48$

$-16 + 3 = -13$

$(12x^2 - 16x) + 3x - 4$

$4x(3x - 4) + 1(3x - 4)$

$(3x - 4)(4x + 1)$

$3x(4x + 1) - 4(4x + 1)$

$(4x + 1)(3x - 4)$

SAT Warm-up

3. Salim wants to purchase tickets from a vendor to watch a tennis match. The vendor charges a one-time service fee for processing the purchase of the tickets. The equation $T = 15n + 12$ represents the total amount T, in dollars, Salim will pay for n tickets. What does 12 represent in the equation?
   a) The price of one ticket, in dollars.
   b) The amount of the service fee, in dollars.
   c) The total amount, in dollars, Salim will pay for one ticket.
   d) The total amount, in dollars, Salim will pay for any number of tickets.

3a. The formula below represents the area of a trapezoid. Solve the formula for 'h' in terms of $A, b_1 \text{ and } b_2$

$$A = \frac{h(b_1 + b_2)}{2}$$

Factor completely, unless it is prime.

$2x^2 - 2x - 4$

$(2x^2 - 4x)(+2x - 4)$

$2x(x-2) + 2(x-2)$

$(x-2)(2x+2)$

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

-8

$-4 + 2 = -2$

$2(x^2 - x - 2)$

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

-2

$+ \quad = -1$

$2x^2 + 5x + 3$

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

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

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

6

$2 + 3 = 5$

$6x^2 + 71x - 12$

$(6x^2 + 72x - x - 12)$

$6x(x+12) - 1(x+12)$

$(x+12)(6x-1)$

-72

$72 + -1 = 71$

Factor completely, unless it is prime.

$$6x^2 - 11x + 3$$

$$6x^2 + 4x - 1$$

Factor completely, unless it is prime.

$$3x^2 - 42x + 40$$

$$x^3 - 8x^2 + 15x$$