Answer key

The method: Solving by factoring

Factor, set each factor equal to 0, and solve.

$x^2 - 7x - 18 = 0$

$(x + 2)(x - 9) = 0$ multiply to −18, add to −7

$x + 2 = 0$ or $x - 9 = 0$ a product is 0 only if a factor is 0

$x = -2$ or $x = 9$

Problems 1 and 2 worked out · Version 0A

$x^2 - 6x - 7 = 0$

$(x - 7)(x + 1) = 0$ multiply to −7, add to −6

$x - 7 = 0$ or $x + 1 = 0$ a product is 0 only if a factor is 0

$x = -1$ or $x = 7$

$x^2 - 49 = 0$

$(x + 7)(x - 7) = 0$ multiply to −49, add to 0

$x + 7 = 0$ or $x - 7 = 0$ a product is 0 only if a factor is 0

$x = -7$ or $x = 7$

Solving by factoring · Version 0A

1) $x = -1$ or $x = 7$ 2) $x = -7$ or $x = 7$
3) $x = 8$ or $x = 9$ 4) $x = -3$ or $x = 0$
5) $x = -8$ or $x = 0$ 6) $x = 4$ or $x = 9$
7) $x = -2$ or $x = 7$ 8) $x = 4$ or $x = 5$
9) $x = -8$ or $x = -4$ 10) $x = -5$ or $x = 9$
11) $x = 1$ or $x = 3$ 12) $x = -5$ or $x = -3$
13) $x = -8$ or $x = -7$ 14) $x = -9$ or $x = 5$