Solving quadratics by factoring #1

Name _____ ID: 1

Solve each equation by factoring.

1) $x^2 + 2x - 3 = 0$

3·1

$(x + 3)(x - 1) = 0$

$x + 3 = 0 \quad x - 1 = 0$

$x = -3$ & $x = 1$

2) $x^2 + 9x + 20 = 0$

20·1
10·2
5·4

$(x + 5)(x + 4) = 0$

$x + 5 = 0 \quad x + 4 = 0$

$x = -5 \quad x = -4$

3) $r^2 - 14r + 49 = 0$

49·1
7·7

$(r - 7)(r - 7) = 0$

$r - 7 = 0 \quad r - 7 = 0$

$r = 7$

4) $m^2 + m - 56 = 0$

56·1 8·7
28·2
14·4

$(m + 8)(m - 7) = 0$

$m + 8 = 0 \quad m - 7 = 0$

$m = -8 \quad m = 7$

5) $m^2 + 10m + 25 = 0$

25·1
5·5

$(m + 5)(m + 5) = 0$

$m + 5 = 0 \quad m + 5 = 0$

$m = -5$

6) $n^2 + n - 34 = -4$

$+4 \quad +4$

$n^2 + n - 30 = 0$

30·1
15·2
10·3
6·5

$(n + 6)(n - 5) = 0$

$n + 6 = 0 \quad n - 5 = 0$

$n = -6 \quad n = 5$

7) $n^2 - 6n + 4 = -4$

$+4 \quad +4$

$n^2 - 6n + 8 = 0$

8·1
4·2

$(n - 4)(n - 2) = 0$

$n - 4 = 0 \quad n - 2 = 0$

$n = 4 \quad n = 2$

8) $n^2 - 3n - 3 = -5$

$+5 \quad +5$

$n^2 - 3n + 2 = 0$

2·1

$(n - 2)(n - 1) = 0$

$n - 2 = 0 \quad n - 1 = 0$

$n = 2 \quad n = 1$

9) $r^2 + 10r + 29 = 4$

$-4 \quad -4$

25·1
5·5

$r^2 + 10r + 25 = 0$

$(r + 5)(r + 5) = 0$

$r + 5 = 0 \quad r + 5 = 0$

$r = -5$

10) $x^2 - x - 28 = -8$

$+8 \quad +8$

20·1
10·2
5·4

$x^2 - x - 20 = 0$

$(x - 5)(x + 4) = 0$

$x - 5 = 0 \quad x + 4 = 0$

$x = 5 \quad x = -4$