Math 10D Name_____

Solve by Factoring

Date_____

Let's do these together: Solve each equation by factoring.

1) $(3b + 8)(b - 5) = 0$

$b = 5$

$b = \frac{-8}{3}$

$3\left(\frac{-8}{3}\right) + 8 = 0$

2) $6(3x + 7)(4x + 1) = 0$

$x = \frac{-7}{3}$, $x = \frac{-1}{4}$

3) $x^2 + 7x + 10 = 0$

(×) 10, (+) 7

$(x+2)(x+5) = 0$

$x = -2$

$x = -5$

4) $6k^2 + 17k + 10 = 5$

$6k^2 + 17k + 5 = 0$

(×) 30, (+) 17 → 15, 2

$\frac{6k^2 + 2k + 15k + 5}{2k \quad\quad 5} = 0$

$(2k+5)(3k+1) = 0$

$k = \frac{-5}{2}$

$k = \frac{-1}{3}$

5) $5x^2 = -10x + 240$

$5x^2 + 10x - 240 = 0$

(×) −48, (+) 2

$5(x^2 + 2x - 48) = 0$

$5(x+8)(x-6) = 0$

$x = -8$ and $x = 6$

6) $67r^2 - 213r + 147 = -8r^2 - 3r$

$75r^2 - 210r + 147 = 0$

$3(25r^2 - 70r + 49) = 0$

$3(5r - 7)^2 = 0$

$r = \frac{7}{5}$

Solve each equation by factoring.

7) $x^2 + 15x + 56 = 0$

8) $5x^2 + 16x + 3 = 0$

9) $m^2 + 6m - 15 = -8$

10) $2n^2 + 5n + 1 = 4$

11) $m^2 - 5m = 24$

12) $10n^2 + 12 = -23n$

13) $-7b^2 - 5b - 8 = -8b - 8b^2 + 2$

14) $6p^2 + 12p - 16 = p^2 - 7$