Algebra 1 Name Key ID: 1

Unit 8 Review (U8 Day 11)

Date 2/8/2017 Period ____

Section 1: GCF
Solve each equation by finding the GCF.

1) $a^2 - 14a = 0$

a=0, a=14

2) $n^2 + 7n = 0$

n=0, n=-7

3) $-2p^2 - 6p = 0$

p=0, p=-3

4) $8v^2 + 2v = 0$

v=0, $v = -\frac{1}{4}$

5) $r^2 + r = 0$

r=0, r=-1

6) $m^2 + 4m = 0$

m=0, m=-4

Section 2: Factoring (x and box)
Solve each equation by factoring.

7) $x^2 + x - 30 = 0$

x=-6, x=5

8) $x^2 - 12x + 32 = 0$

x=8, x=4

9) $m^2 - 4m + 11 = 8$

m=3, m=1

10) $x^2 - 2x - 21 = 3$

x=6, x=-4

11) $5k^2 - 7k - 4 = 2$

$k = 2,\ k = -3/5$

12) $5n^2 - 13n - 8 = -2$

$n = 3,\ n = -2/5$

Section 3: Taking Square Roots
Solve each equation by taking square roots.

13) $b^2 = 0$

$b = 0$

14) $x^2 = 44$

$x = 2\sqrt{11},\ x = -2\sqrt{11}$

15) $6x^2 = 270$

$x = 3\sqrt{5},\ x = -3\sqrt{5}$

16) $x^2 + 1 = 50$

$x = 7,\ x = -7$

17) $5x^2 + 5 = 40$

$x = \sqrt{7},\ x = -\sqrt{7}$

18) $9b^2 + 7 = 16$

$b = 1,\ b = -1$

Section 4: Completing the Square
Solve each equation by completing the square.

19) $b^2 - 8b - 43 = -3$

$b = 4 + 2\sqrt{14}$,
$b = 4 - 2\sqrt{14}$

20) $p^2 - 4p - 38 = -6$

$p = 8$, $p = -4$

21) $x^2 - 4x - 16 = -5$

$x = 2 + \sqrt{15}$,
$x = 2 - \sqrt{15}$

22) $2b^2 - 16b + 6 = -8$

$b = 7$, $b = 1$

23) $5x^2 - 20x - 65 = -5$

$x = 6$, $x = -2$

24) $2x^2 - 12x - 82 = 10$

$x = 3 + \sqrt{65}$, $x = 3 - \sqrt{55}$

Section 5: Quadratic Formula
Solve each equation with the quadratic formula.

25) $8x^2 + 2x - 4 = 0$

$x = \frac{-1 + \sqrt{33}}{8}$, $x = \frac{-1 - \sqrt{33}}{8}$

or

$x = \frac{-1 + \sqrt{33}}{8}$, $x = \frac{-1 - \sqrt{33}}{8}$

26) $2m^2 - 10m - 72 = 0$

$x = -4$, $x = 9$

27) $3n^2 + 4n - 24 = 0$

$x = \frac{-2 - 2\sqrt{19}}{3}$, $x = \frac{-2 + 2\sqrt{19}}{3}$

28) $2x^2 - 9x + 13 = 3$

$x = 2$, $x = 5/2$

29) $b^2 - 2b - 92 = 7$

$b = -9$, $b = 11$

30) $5x^2 + 5x - 21 = -2$

$x = \frac{-5 + 9\sqrt{5}}{10}$, $x = \frac{-5 - 9\sqrt{5}}{10}$