Algebra 2 Sec 5-5 Practice Fall 2014 Name:

Find the EXACT solutions to each quadratic equation using the given method.

Solve by factoring.

1. $84x^2 - 78x = 0$

2. $6x^2 - 12x = 378$

3. $45x^2 - 80 = 0$

4. $24x^2 - 24 = 20x$

Solve using square roots.

5. $36x^2 - 121 = 0$

6. $45x^2 - 80 = 0$

7. $3x^2 - 18 = 0$

8. $2x^2 + 50 = 0$

9. $3(x-6)^2 + 1 = 13$

10. $(x+2)^2 - 7 = 16$

Algebra 2 Sec 5-5 Practice Fall 2014 Name: Answers

Find the EXACT solutions to each quadratic equation using the given method.

Solve by factoring.

1. $84x^2 - 78x = 0$

$6x(14x-13)=0$

$X = 0, 13/14$

2. $6x^2 - 12x = 378$

$6x^2-12x-378=0$

$6(x^2-2x-63)=0$

$6(x-9)(x+7)=0$

$X = -7, 9$

3. $45x^2 - 80 = 0$

$5(9x^2-16)=0$

$5(3x\pm4)=0$

$x = \pm 4/3$

4. $24x^2 - 24 = 20x$

$24x^2-20x-24=0$

$4(6x^2-5x-6)=0$

$4(3x+2)(2x-3)=0$

$X = -2/3, 3/2$

Solve using square roots.

5. $36x^2 - 121 = 0$

$36x^2 = 121$

$\sqrt{x^2} = \sqrt{\frac{121}{36}}$

$X = \pm 11/6$

6. $\frac{45x^2}{5} - \frac{80}{5} = \frac{0}{5}$

$9x^2-16=0$

$9x^2 = 16$

$\sqrt{x^2} = \sqrt{16/9}$

$X = \pm 4/3$

7. $3x^2 - 18 = 0$

$3x^2 = 18$

$\sqrt{x^2} = \sqrt{6}$

$X = \pm\sqrt{6}$

8. $2x^2 + 50 = 0$

$2x^2 = -50$

$x^2 = -25$

NO REAL SOL

9. $3(x-6)^2 + 1 = 13$

$-1 \quad -1$

$\frac{3(x-6)^2}{3} = \frac{12}{3}$

$\sqrt{(x-6)^2} = \pm\sqrt{4}$

$x-6 = \pm 2$

$+6 \quad +6$

$X = +2+6, -2+6$

$X = 4, 8$

10. $(x+2)^2 - 7 = 16$

$+7 \quad +7$

$\sqrt{(x+2)^2} = \sqrt{23}$

$X+2 = \pm\sqrt{23}$

$-2 \quad -2$

$X = -2 \pm \sqrt{22}$