Name: _____ Date: _____

Determining Best Method (All Methods) Practice

Directions: Using your notes, solve the equations.

1. $6x^2 - 11x + 3 = 0$

18, −9, −2, −11

	$2x$	-3
$3x$	$6x^2$	$-9x$
-1	$-2x$	3

$(3x-1)(2x-3)$

$x = \frac{1}{3}$ $x = \frac{3}{2}$

Method: _____ x = _____

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

$x^2 + 6x + 9 = 45 + 9$

$\sqrt{(x+3)^2} = \sqrt{54}$

$x + 3 = \pm 3\sqrt{6}$

$x = -3 \pm 3\sqrt{6}$

Method: _____ x = _____

3. $x^2 - 7x = 8$

$x^2 - 7x - 8 = 0$

−8, −8, +1, −7

$(x-8)(x+1) = 0$

$x = 8$ $x = -1$

Method: _____ x = _____

4. $8x^2 + 24x = 0$

$8x$

$8x(x+3) = 0$

$x = 0$ $x = -3$

Method: _____ x = _____

5. $\frac{4x^2}{2} - \frac{22x}{2} + \frac{10}{2} = 0$

$2(2x^2 - 11x + 5)$

10, −10, −1, −11

	x	-5
$2x$	$2x^2$	$-10x$
-1	$-1x$	5

$x = 5$ $x = \frac{1}{2}$

Method: _____ x = _____

6. $2x^2 - 18x = -40$

$2x^2 - 18x + 40 = 0$

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

20, −5, −4, −9

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

$x = 5$ $x = 4$

Method: _____ x = _____

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7. $x^2 - 9 = 0$

$+9$

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

$x = \pm 3$

Method: _____ x = _____

8. $x^2 + 4x + 17 = 0$

$x^2 + 4x \ \pm 4 = -17 \pm 4$

$\sqrt{(x+2)^2} = \sqrt{-13}$

$x + 2 = \pm\sqrt{-13}$

$x = -2 \pm \sqrt{-13}$

Method: _____ x = _____

9. $2x^2 + 6x - 37 = 0$

$a \quad b \quad c$

$$\frac{-6 \pm \sqrt{6^2 - 4(2)(-37)}}{2(2)}$$

$$\frac{-6 \pm \sqrt{332}}{4}$$

$$\frac{-6 \pm 2\sqrt{83}}{4}$$

$$\frac{-3 \pm 1\sqrt{83}}{2}$$

Method: _____ x = _____

10. $4(x+4)^2 = 16$

$\frac{4}{4} \quad \frac{16}{4}$

$\sqrt{(x+4)^2} = \sqrt{4}$

$x + 4 = \pm 2$

-4

$x + 4 = 2$ $\quad$ $x + 4 = -2$

$x = -2$ $\quad$ $x = -6$

Method: _____ x = _____

11. $x^2 - 15x + 36 = 0$

36

$-12 \quad -3$

-15

$(x-12)(x-3)$

$x = 12$ $\quad$ $x = 3$

Method: _____ x = _____

12. $18x^2 + 100x = 63$

$18x^2 + 100x - 63 = 0$

$$\frac{-100 \pm \sqrt{100^2 - 4(18)(-63)}}{2(18)}$$

$$\frac{-100 \pm \sqrt{14536}}{36}$$

Method: _____ x = _____

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