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Name:_____ Period:_____ Date:_____

Solving Absolute Value Equations – Mixed Answers

Section I. Solve for the variable if possible

1. $|y - 6| = 9$

   $y = 15 \quad y = -3$

2. $|8 - 3k| = -7$

   not possible (an absolute value cannot equal a negative)

3. $|3x + 5| = 11$

   $x = 2 \quad x = -\frac{16}{3}$

4. $\left|\frac{k}{-3}\right| = 9$

   $k = 27 \quad k = -27$

5. $\left|\frac{m}{12} + 15\right| = 13$

   $m = -24 \quad m = -336$

6. $|13 - 4h| = 27$

   $h = -\frac{14}{4} \quad h = 10$

7. $\left|\frac{g}{5} + 10\right| = 4$

   $g = -30 \quad g = -70$

8. $\left|\frac{7+a}{6}\right| = 8$

   $a = 41 \quad a = -55$

9. $|g - 3| - 14 = -6$

   $g = 11 \quad g = -5$

10. $-12|\,9j + 1| = -120$

    $j = 1 \quad k = -27$

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11. $|w + 6| = 3w - 2$

$w = 4$ ~~$w = -1$~~

12. $3|x - 5| = 2x$

$x = 15$ $x = 3$

13. $|4a + 12| = -6a + 4$

$a = \frac{-4}{5}$ ~~$a = 8$~~

14. $3|2j + 7| = 3j + 12$

$j = -3$ $j = -\frac{11}{3}$

15. $|3p - 7| - 5 = -3$

$p = 3$ $p = \frac{5}{3}$

16. $2|5f + 9| + 7 = 1$

not possible

17. $4|3x + 8| = 16x$

$x = 8$ ~~$x = -\frac{8}{7}$~~

18. $|15 + q| = -2q + 3$

$q = -4$ ~~$q = 18$~~