Name:_____Date:_____Per:____

Midterm Review 2

Read each problem carefully. Show all of your work, circle your answers! Good luck! You may use notes or the textbook, but please do not get help from any outside sources.

Evaluate the following expressions: (1.1-1.2)

1. $(17-8)-(5-7)$

$9-(-2)$
11

2. m^2-8 when $m = 7$

7^2-8
$49-8$
41

3. $2p^2-5$ when $p = 3$

$2(3)^2-5$
$2\cdot 9-5$
$18-5$
13

4. $|r|$ when $r = -12$

12

Translate the verbal phrase into an algebraic expression, equation or inequality. (1.3-1.4)

5. 3 less than x is 11.

$x-3=11$

6. The sum of twice a number z and 17 is at most 32.

$2z+17 \leq 32$

7. Is 7 a solution to the given inequality? Show or explain your work.

$5x+4>39$
$5(7)+4>39$
$35+4>39$
$39>39$ No because 39 is not greater than 39

8. Write a rule for the function. **(1.6)**

x	*y*
–2	2
0	3
2	4
4	5

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

Classify the given number using all names that apply. (2.1)

9. $\sqrt{28}$

Irrational

10. –5

Integer and Rational

Add, subtract, multiply or divide. (2.2-2.6)

11. –13 – 8

−21

12. 12.2 – (–6.7)

18.9

14. –6(4)

−24

15. $-\frac{1}{7}(-21)(-2)$

−6

16. $-26 \div \left(-\frac{13}{17}\right)$

34

Simplify. (2.5)

17. $4(-2x+1)-3x$

$-8x + 4 - 3x$
$-11x + 4$

18. $\frac{-6x+21}{-3}$

$2x - 7$

Solve the equation or proportion. (3.5-3.6)

19. $2y - 7 = 5$

$y = 6$

20. $3.1b - 7 = 2.8b + 8$

$b = 50$

21. $-8(2c - 5) = -5(3c + 7)$

$-16c + 40 = -15c - 35$
$40 = 1c - 35$
$75 = c$

22. $\frac{7m - 6}{6} = \frac{16}{12}$

$12(7m - 6) = 96$
$84m - 72 = 96$
$m = 2$

23. A map has a scale of 1 in: 5 mi. The distance on the map between two cities is 11.5 inches. Estimate the actual distance between the cities.

$\frac{1}{5} = \frac{11.5}{x}$ $x = 57.5$ miles

Solve each percent problem. (3.7)

24. 162 is what percent of 450?

36%

25. What percent of 144 is 151.2?

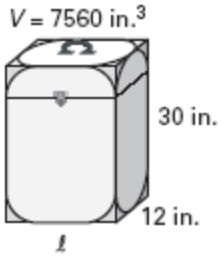
105%

26. The volume V of the suitcase is given by the formula $V = lwh$ where l is the length, w is the width and h is the height of the suitcase. **(3.8)**

a. Solve the formula for l.

$$\frac{V}{wh} = l$$

b. Use the rewritten formula to find the length of the suitcase shown below.



$$\frac{7560}{(12)(30)} = l$$

$l = 21$ in