Algebra 2B
Review 1.1 – 1.4

Name Key

Date _____ Period _____

Find the value of each expression. (no calculator)

1. $4+6^2 \div 9-3$

$4+36 \div 9-3$
$4+4-3$
$8-3$
$\boxed{5}$

2. $9+7-2 \cdot 5-3$

$9+7-10-3$
$16-13$
$\boxed{3}$

3. $-3^2+(-4)^2$

$-9+16$
$\boxed{7}$

4. $36 \div 3 \cdot 2-8+3$

$12 \cdot 2-8+3$
$24-8+3$
$16+3$
$\boxed{19}$

5. $3(5x-2y)-4(8y-x)$

$15x-6y-32y+4x$
$\boxed{19x-38y}$

6. $\left|\dfrac{(-6)^2-3(-4)}{-8+2}\right|$

$\left|\dfrac{36+12}{-6}\right|$
$\left|\dfrac{48}{-6}\right|$
$|-8| = \boxed{8}$

7. Evaluate $\dfrac{5a-b^2}{3c}$ if $a=4$, $b=3$ and $c=2$

$\dfrac{5(4)-(3)^2}{3(2)} = \dfrac{20-9}{6} = \boxed{\dfrac{11}{6}}$

8. Use $I = prt$, the formula for simple interest over t years to find I when $p =$ \$2,000, $r = 6\%$, and $t = 2$ years.

$I = (2000)(.06)(2)$
$= (2000)(.12)$
$= \boxed{\$240}$

Give the additive and multiplicative inverses.

9. $5\frac{3}{4}$ – $\boxed{-5\frac{3}{4}} = 0$

$\frac{23}{4} \cdot \boxed{\frac{4}{23}} = 1$

10. 2.4 – $\boxed{-2.4} = 0$

$2\frac{2}{5}$
$\frac{12}{5} \cdot \boxed{\frac{5}{12}} = 1$

11. $-3a + \boxed{3a} = 0$

$-3a \cdot \boxed{\frac{-1}{3a}} = 1$

Name the property illustrated by each equation.

12. $5x+7 = 7+5x$

Commutative of addition

13. $3\left(\frac{1}{3}\right) = 1$

Multiplicative inverse

14. $-12c+0 = -12c$

additive identity

15. $x(3x-1) = 3x^2-x$

distributive

16. $(6m+9)+7 = 6m+(9+7)$

associative of addition

Algebra 2B
Review 1.1 – 1.4
Put a check in the box if the number belongs to the set.

N = natural numbers
W = whole numbers
Z = integer numbers
Q = rational numbers
I = irrational numbers
R = real numbers

	N	W	Z	Q	I	R
17. -24			✓	✓		✓
18. $\sqrt{15}$					✓	✓
19. 3.7				✓		✓
20. $2\frac{1}{4}$				✓		✓

Solve each equation.

21. $5x - 22 = 12(1 - x)$

$5x - 22 = 12 - 12x$
$+12x \quad +12x$
$\frac{17x}{17} = \frac{34}{17}$
$x = 2$

22. $6(x-5) - 2x = -4(x-3) + 2x$

$6x - 30 - 2x = -4x + 12 + 2x$
$4x - 30 = -2x + 12$
$+2x \quad +2x$
$6x - 30 = 12$
$+30 \quad +30$
$\frac{6x}{6} = \frac{42}{6}$
$x = 7$

23. $-\frac{3}{4}x - 2 = \frac{1}{2}x + 7$

$+2 \quad +2$
$-\frac{3}{4}x = \frac{1}{2}x + 9$
$-\frac{2}{4}x \quad -\frac{2}{4}x$
$\left(-\frac{4}{5}\right)\frac{5}{4}x = 9\left(-\frac{4}{5}\right)$
$x = -\frac{36}{5}$

24. $\frac{3}{2}(4x-6) - \frac{1}{4}(8x-4) = 12$

$6x - 9 - 2x + 1 = 12$
$4x - 8 = 12$
$+8 \quad +8$
$4x = 20$
$x = 5$

25. Solve for y: $5x - y = 10$

$-5x \quad -5x$
$-y = -5x + 10$
$y = 5x - 10$

26. Solve for L: $P = 2L + 2W$

$\frac{-2L}{-2} = \frac{-P + 2W}{-2}$
$L = \frac{2W - P}{-2}$

27. Solve for C: $F = \frac{9}{5}C + 32$

$\left(-\frac{5}{9}\right) - \frac{9}{5}C = \left[-F + 32\right]\left(-\frac{5}{9}\right)$
$C = \left(\frac{5}{9}\right)F - \frac{160}{9}$
$C = \frac{5}{9}F - \frac{160}{9}$

28. Solve for h: $V = \frac{1}{3}\pi r^2 h$ (3)

$3V = \pi r^2 h$
$\frac{3V}{\pi r^2} \quad \frac{\pi r^2}{\pi r^2}$
$h = \frac{3V}{\pi r^2}$

Algebra 2B
Review 1.1 – 1.4

29. Adult tickets to the movies are \$7.00 and student tickets are \$4.50. If 82 tickets were sold and the total receipts were \$449.00, how many student tickets were sold? (hint: show ALL steps of solving word problems!!)

x 82 − x

$7x + 4.50(82 - x) = 449$

$7x + 369 - 4.50x = 449$

$-369 \qquad -369$

$7x - 4.5x = 80$

$\frac{2.5x}{2.5} = \frac{80}{2.5}$

$x = 32$

Student tickets: $82 - x$

$82 - 32$

50 tickets

30. While on vacation, you take a taxi from the airport to your hotel for \$21.85. The taxi costs \$2.95 plus \$1.35 per minute. How far is it from the airport to the hotel? (hint: show ALL steps of solving word problems!!)

$2.95 + 1.35m = 21.85$

$-2.95 \qquad -2.95$

$\frac{1.35m}{1.35} = \frac{18.9}{1.35}$

$m =$ 14 minutes