Name: KEY Hour: _____ ID: Practice

Chapter 1 Practice Test

1. Evaluate $4v + 6w$ for $v = 3$ and $w = -2$.

$4(3) + 6(-2)$
$12 + (-12)$
0

2. Evaluate $\frac{42 - z}{-2z + 4}$ when $z = -2$.

$\frac{42-(-2)}{-2(-2)+4} = \frac{44}{8} = \frac{11}{2}$

3. Evaluate $3a^3 + (3a)^2$ when $a = -3$.

$3(-3)^3 + (3 \cdot -3)^2$
$3(-27) + (-9)^2 \rightarrow -81 + 81$
$= 0$

Simplify the expression.

4. $9(a - 1) + 4(a - 1)$

$9a - 9 + 4a - 4$
$13a - 13$

5. The literature club is printing a storybook to raise money. The print shop charges \$3 for each book, and \$45 to create the film. How many books can the club print if their budget is \$525?

$3x + 45 = 525$
$3x = 480$
$x = 160$ books

Solve the equation. Check your solution.

6. $8p + 4 = -20$

$8p = -24$
$p = -3$

7. $-\frac{p}{14} + 9 = 13$
$\quad -9 \quad -9$

$-\frac{p}{14} = 4$

$14 \cdot \frac{-p}{14} = 4 \cdot 14$
$-p = 56$
$p = -56$

8. Jeff earns \$4.00 an hour baby-sitting. He is saving to buy a pair of in-line skates that costs \$116.00. If Jeff already has \$60.00 saved, how many hours must he baby-sit in order to buy the skates?

$60 + 4x = 116$
$4x = 56$
$x = 14$ hours

9. Solve the equation. $-3x + 5 = 7x + 8$
$\quad +3x \quad +3x$

$5 = 10x + 8$
$\quad -8 \quad -8$
$-3 = 10x$
$-\frac{3}{10} = x$

10. Solve the equation. $5(3 - 4x) = 7 - (4 - x)$

$15 - 20x = 7 - 4 + x$
$15 - 20x = 3 + x$
$12 = 21x$
$\frac{12}{21} = x = \frac{4}{7}$

Solve the equation.

11. $\left[\frac{25x}{5} - 7x = 12\right] \cdot 5$

$25x - 35x = 60$
$-10x = 60$
$x = -6$

12. $4n - 2(3 - n) = -13$

$4n - 6 + 2n = -13$
$6n - 6 = -13$
$6n = -7$
$n = -\frac{7}{6}$

13. $\left[\frac{1}{4}(y + 3) = 7\right] \cdot 4$

$y + 3 = 28$
$y = 25$

14. $\left[\frac{x}{2} + \frac{x}{4} = 5\right] \cdot 8 \rightarrow \frac{8}{1} \cdot \frac{x}{2} = 4x$

$\frac{8}{1} \cdot \frac{x}{4} = 2x$

$4x + 2x = 40$
$6x = 40$
$x = \frac{40}{6} = \frac{20}{3}$

15. $0 = \frac{8}{11}h - 32$

$+32 \quad +32$

$\frac{11}{8} \cdot 32 = \frac{8}{11}h \cdot \frac{11}{8}$ $\quad h = \frac{11}{8} \cdot \frac{32}{1}$

$h = 44$

16. Which equation below has no solutions?

A. $10(x+3)+8 = 18x+30$
B. $16n - 20 = 4(5n+1)$
C. $12(c+3) - 30 = 12c + 36$
D. $4(6a+3) = 6(4a+2)$

C. $12c + 36 - 30 = 12c + 36$

$12c + 6 = 12c + 36$

$6 = 36$ no solution

17. Solve for F: $\left[C = \frac{5}{9}(F-32)\right]$ $\cdot\frac{9}{5}$

$\frac{9}{5}C = F - 32$

$\frac{9}{5}C + 32 = F$

18. Solve for s in the equation $-5 = t + 4s$.

$-t \quad -t$

$-5 - t = 4s$

$\frac{-5-t}{4} = s$

19. Solve for p: $-6p - q = p + 5q$

$-p \quad -p$

$-7p - q = 5q$

$+q \quad +q$

$-7p = 6q$

$p = -\frac{6}{7}q$

20. Solve for t in the equation $B = 9s^2 t$.

$\frac{B}{9s^2} = \frac{9s^2 t}{9s^2}$

$\frac{B}{9s^2} = t$

21. Solve for v in the equation $\left[t = \frac{u+v}{v}.\right]$ $\cdot v$

$tv = u + v$

$-v \quad -v$

$tv - v = u$

$v(t-1) = u$

$\frac{v(t-1)}{(t-1)} = \frac{u}{(t-1)}$

$v = \frac{u}{t-1}$

22. Consider the equation $6x + 3y = 24$.

a. Solve for x. $\quad -3y \quad -3y$

$6x = 24 - 3y$

$\frac{6x}{6} = \frac{24}{6} - \frac{3y}{6}$

$x = 4 - \frac{y}{2}$

b. Find x when $y = 2$.

$x = 4 - \frac{2}{2} = 4 - 1 = 3$

c. What happens to the value of x when the value of y is increased by 12? Explain.

omit

23. Solve the inequality. Then graph your solution.

$6x - 5 < 25$

$+5 \quad +5$

$6x < 30$

$x < 5$

Solve the absolute value equation.

24. $|x-2| = 5$

$x - 2 = 5$ $\quad x = 7$

$x - 2 = -5$ $\quad x = -3$

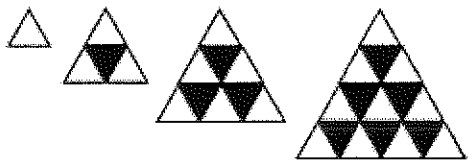
Solve the absolute value inequality.

25. $|b-5| < 2$

$b - 5 < 2$ AND $b - 5 > -2$

$b < 7$ AND $b > 3$

26. If the pattern is continued, how many white triangles will be in Figure 7?



28 triangles

Fig #	1	2	3	4	5	6	7
# white	1	3	6	10	15	21	28
		+2	+3	+4	+5	+6	+7