Name _____ Algebra Test Review: 1.7, 1.8 and chapter 2

Your test has 20 questions. Even though some questions are multiple choice you are required to show your work and use test-taking strategies (highlight, strike answers, etc.)

The test will include 1.7, 1.8, 2.3, 2.4, 2.5, 2.6, and coding stages 1 and 2.

Complete the following:

1. solve for a: $\frac{c}{a} = \frac{d}{b}$

$\frac{ad}{d} = \frac{bc}{d}$ $\quad a = \frac{bc}{d}$

2. Solve for y: $5y - 4x = 15$

$+4x \quad +4x$

$\frac{5y}{5} = \frac{4x}{5} + \frac{15}{5}$

$y = \frac{4}{5}x + 3$

3. solve for W: $WX - Y = Z$

$+y \quad +y$

$\frac{WX}{X} = \frac{y+z}{X}$

$W = \frac{y+z}{X}$

4. Simplify: $-\frac{4}{3}(15x - 24)$

$-20x + 32$

5. $3x^5 + 6x^5$

$9x^5$

6. MODEL and use the distributive property:

13(102)

$13(100+2)$

$1300 + 26$

1326

7. $5x - 2x - 4 = 11$

$3x - 4 = 11$

$+4 \quad +4$

$\frac{3x}{3} = \frac{15}{3}$

$x = 5$

8. $5x + 12 = 5x + 7x - 4x$

$5x + 12 = 8x$

$-5x \quad -5x$

$\frac{12}{3} = \frac{3x}{3}$

$4 = x$

9. $2x + 5 = 5x + 11$

$-2x \quad -2x$

$5 = 3x + 11$

$-11 \quad -11$

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

$-2 = x$

10. $7n + 9 = 3 - 9n$

$+9n \quad +9n$

$16n + 9 = 3$

$-9 \quad -9$

$\frac{16n}{16} = \frac{-6}{16}$

$n = \frac{-3}{8}$

11. $3x + 6 - 4x = x + 10$

$-x + 6 = x + 10$

$+x \quad +x$

$6 = 2x + 10$

$-10 \quad -10$

$-4 = 2x$

$-2 = x$

12. $4 + 3x = 7x + 12$

$-3x \quad -3x$

$4 = 4x + 12$

$-12 \quad -12$

$\frac{-8}{4} = \frac{4x}{4}$

$-2 = x$

13. $4x - 9 = 2(2x + 4)$

$4x - 9 = 4x + 8$

$\emptyset$

14. $6(x + 3) = 3(2x + 6)$

$6x + 18 = 6x + 18$

∞

15. The sum of 3 consecutive even integers is 360. Write an solve an equation to find each integer

x	118
$x+2$	120
$x+4$	122

$3x + 6 = 360$

$-6 \quad -6$

$3x = 354 \quad x = 118$

16. The length of a rectangle is 4 less than twice the width. The perimeter is 52 in. Write an solve an equation to find the length and width

Length: $2x - 4$ | 16

width: x | 10

$2(2x - 4) + 2(x) = 52$

$4x - 8 + 2x = 52$

$6x - 8 = 52$

$+8 \quad +8$

$6x = 60$

$x = 10$

17. Alex sets up a tutoring business. He charges $4 for coming to your house plus $.50 per problem. He charged Brittany $11.50 for a tutoring session. How many problems did he help her with? (write and solve an equation)

$.50x + 4 = 11.50$
$-4 \quad -4$
$.50x = 7.50$
$x = 15$

18. Jonathon and Nathan need to go to Utica High. Jonathon leaves at 3:00 and he walks at a pace of 3.2 miles per hour. Nathan leaves at 3:30 and jogs at 4.8 miles per hour. When will Nathan catch Jonathon?

	R	T	D
J	3.2	x	3.2x
N	4.8	$x-\frac{1}{2}$	$4.8(x-\frac{1}{2})$

$3.2x = 4.8x - 2.4$
$-4.8x \quad -4.8x$
$-1.6x = -2.4$
$x = 1.5$

Nathan jogs for $1.5 - \frac{1}{2} = 1$ hr
1 hour after 3:30
4:30

19. Emily and Chloe are at Wendy's. Emily rides her bike north at a rate of 6 miles per hour. Chloe finishes her frosty an hour later and rides her bike south at a rate of 8 miles per hour. When will they be 20 miles apart?

	R	T	D
E	6	x	6x
C	8	x-1	8x-8

$6x + 8x - 8 = 20$
$14x - 8 = 20$
$+8 \quad +8$
$14x = 28$
$x = 2$

Matching

20. D	$5 + (3 + 2) = (5 + 3) + 2$	A. inverse property of multiplication
21. C	$5 + 3 + 2 = 5 + 2 + 3$	B. identity property of multiplication
22. A	$\frac{1}{3}(3) = 1$	C. commutative property
23. E	$5 + (-5) = 0$	D. associative property
24. F	$6 + 0 = 6$	E. inverse property of addition
25. B	$6(1) = 6$	F. Identity property of addition

12

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

$3x - 8 = 6$

$+8 \quad +8$

$3x = 14$

$x = 14/3$

4

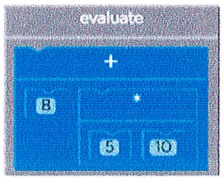
27. $6 + \frac{x}{4} = \frac{7}{2}$

$24 + x = 14$

$-24 \quad -24$

$x = -10$

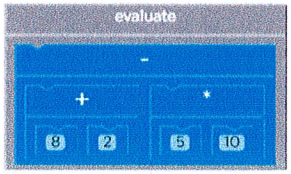
28. Write an expression to model each set of evaluation blocks. Then simplify.



$8 + (5 \cdot 10)$

$8 + 50$

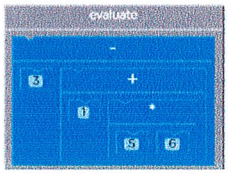
58



$(8+2) - (5 \cdot 10)$

$10 - 50$

-40



$3 - (1 + (5 \cdot 6))$

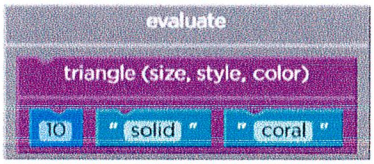
$3 - (1 + 30)$

$3 - 31$

-28

29. This code will generate a(n)

A. string (B. image) C. number



30) $-3(2x-4) = 3 - 2(x+6) + 8$

$-6x + 12 = 3 - 2x - 12 + 8$

$-6x + 12 = -2x - 1$

$+6x \quad +6x$

$12 = 4x - 1$

$+1 \quad +1$

$13 = 4x$

$\frac{13}{4} = x = 3.25$