

**Algebra 1**  
**Practice Chapter 2 Test**

NAME KEY

**Write the letter for the best answer in the blank at the right. (3 Points)**

**Translate the sentence into an equation for #1-3.**

1. The sum of twice a number  $x$  and 13 is three times  $x$  less than two.

A.  $2(x + 13) + 3x - 2$

C.  $2x + 13 = 3x - 2$

**B.**  $2x + 13 = 2 - 3x$

D.  $2x + 13 = 3(x - 2)$

2. Two times a number  $m$  minus three equals the product of  $m$  and five.

A.  $2(m - 3) = m + 5$

**C.**  $2m - 3 = 5m$

B.  $2m - 3 = m + 5$

D.  $2(m - 3) = 5m$

3. The sum of five and a number  $y$  is two minus the quotient of four and  $y$ .

A.  $5 + y = \frac{4}{y} - 2$

C.  $5y = 2 - \frac{4}{y}$

B.  $5y = \frac{4}{y} - 2$

**D.**  $5 + y = 2 - \frac{4}{y}$

4. Solve  $y - 16 = 7$

A. 13

**B.** 23

C. -13

D. -23

5. Solve  $3x = -21$

A. 7

**B.** -7

C. 24

D. -24

6. Solve  $\frac{2}{5}x = 16$

A. 8

B. 20

**C.** 40

D. 85

7. Solve  $y + 15 = 9$

A. 6

B. 24

**C.** -6

D. -24

8. Solve  $x - 11 = -27$

**A.** -16

B. 16

C. -38

D. 38

9. Solve  $7x - 13 = -55$

A. 6

B. 294

**C.** -6

D. -294

10. Solve  $5x + 8 = 33$

A.  $\frac{41}{5}$

**B.** 5

C. 12

D. 125

11. Solve  $44 = -10 + 6y$

A. 7

**B.**  $\frac{27}{3}$

C. 9

D. 60

1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

7. \_\_\_\_\_

8. \_\_\_\_\_

9. \_\_\_\_\_

10. \_\_\_\_\_

11. \_\_\_\_\_

Points(33) \_\_\_\_\_

12. Solve  $6x - 5 = 3x + 1$   
 $3x - 5 = 1$        $3x = 6$   
 $+5 \quad +5$

A. 2      B.  $\frac{5}{2}$       C.  $\frac{5}{6}$       D. 6

13. Solve  $8(x - 3) = 2(x - 11)$   
 $8x - 24 = 2x - 22$   
 $+24 \quad +24$        $\frac{6x}{6} = \frac{2}{6}$

A.  $\frac{1}{3}$       B. -9      C.  $-\frac{29}{3}$       D.  $\emptyset$

14. Solve  $6(x + 6) = 3(2x + 12)$   
 $6x + 36 = 6x + 36$        $36 = 36$

A. 18      B. 54      C.  $\mathbb{R}$       D.  $\emptyset$

15. Solve  $5(x - 2) + 3x = 11(x + 1)$   
 $5x - 10 + 3x = 11x + 11$   
 $-8x - 10 = 11x + 11$        $-10 = 3x + 11$   
 $-8x \quad -8x$        $-11 \quad -11$

A. -15      B.  $\frac{18}{3}$       C.  $-\frac{21}{19}$       D. -7       $-\frac{21}{3} = \frac{3x}{3}$

16. Solve  $4x + 2(x + 7) = 5(x + 3)$   
 $4x + 2x + 14 = 5x + 15$        $6x + 14 = 5x + 15$        $x + 14 = 15$   
 $-5x \quad -5x$        $-5x \quad -5x$        $-14 \quad -14$

A.  $\frac{1}{2}$       B. 11      C.  $\frac{1}{11}$       D. 1

17. Solve  $\frac{1}{4}x + 4 = \frac{1}{8}x - 3$   
 $2x + 32 = x - 24$        $x + 32 = -24$   
 $-x \quad -x$        $-32 \quad -32$

A. 4      B.  $\frac{5}{6}$       C.  $-\frac{56}{3}$       D. -56

18. Solve  $\frac{2}{3}x + \frac{5}{2} = \frac{1}{6}x + \frac{4}{3}$   
 $4x + 15 = x + 8$        $3x + 15 = 8$   
 $-x \quad -x$        $-15 \quad -15$

A.  $-\frac{7}{3}$       B.  $-\frac{10}{3}$       C.  $-\frac{17}{3}$       D.  $-\frac{19}{3}$        $3x = -7$

19. Solve  $\frac{x}{8} + 12 = 4$   
 $\frac{x}{8} = -8$        $8 \cdot \frac{x}{8} = -8 \cdot 8$

A. 64      B. -64      C. 128      D. -128

20. Solve  $\frac{4}{x} = \frac{2}{18}$   
 $2x = 72$

A. 18      B.  $\frac{3}{11}$       C.  $\frac{72}{5}$       D. 36

21. Solve  $\frac{x}{3} = \frac{x+6}{5}$   
 $5x = 3x + 18$        $\frac{2x}{2} = \frac{18}{2}$   
 $-3x \quad -3x$        $x = 9$

A. 9      B. -8      C.  $\emptyset$       D. 6

22. Solve  $10x + 17 + 4x - 9 = 15x + 11 + 2x - 7 - 9x + 34$   
 $14x + 8 = 8x + 38$   
 $-8x \quad -8x$

A. 5      B. 8      C. 12      D. 15       $6x + 8 = 38$   
 $-8 \quad -8$   
 $\frac{6x}{6} = \frac{30}{6}$

- 12. \_\_\_\_\_
- 13. \_\_\_\_\_
- 14. \_\_\_\_\_
- 15. \_\_\_\_\_
- 16. \_\_\_\_\_
- 17. \_\_\_\_\_
- 18. \_\_\_\_\_
- 19. \_\_\_\_\_
- 20. \_\_\_\_\_
- 21. \_\_\_\_\_
- 22. \_\_\_\_\_

Points(33) \_\_\_\_\_

23. Evaluate  $|x - 8| + 15$  when  $x = -4$ .

A. 3

**B. 27**

C. 19

D. 11

$$|-4-8|+15$$

$$|-12|+15$$

$$12+15$$

24. Evaluate  $2|-3x + 2| + 1$  when  $x = 4$ .

A. -19

B. -27

**C. 21**

D. 29

$$2|-3(4)+2|+1$$

$$2|-10|+1$$

$$2(10)+1$$

25. Solve  $|x - 6| = 17$

A.  $\{-23, 11\}$

B.  $\{-11, 11\}$

**C.  $\{-11, 23\}$**

D.  $\{-23, 23\}$

$$x-6=17$$

$$+6 \quad +6$$

$$x-6=-17$$

$$+6 \quad +6$$

26. Solve  $|x + 12| = 28$

A.  $\{-16, 16\}$

B.  $\{-40, 40\}$

C.  $\{-16, 40\}$

**D.  $\{-40, 16\}$**

$$x+12=28$$

$$-12 \quad -12$$

$$x+12=-28$$

$$-12 \quad -12$$

27. Solve  $|2x + 8| = 18$

A.  $\{-5, 5\}$

B.  $\{-5, 13\}$

**C.  $\{-13, 5\}$**

D.  $\{\emptyset\}$

$$2x+8=18$$

$$-8 \quad -8$$

$$2x+8=-18$$

$$-8 \quad -8$$

28. Solve  $xy + w = z$  for  $x$

A.  $\frac{w-z}{y}$

**B.  $\frac{-w+z}{y}$**

C.  $\frac{-wz}{y}$

D.  $-\frac{z}{y} + w$

$$xy+w=z$$

$$-w \quad -w$$

$$\frac{xy}{y} = \frac{z-w}{y}$$

29. Which ratio forms a proportion with  $\frac{8}{28}$ ?

A.  $\frac{1}{4}$

B.  $\frac{6}{24}$

C.  $\frac{7}{26}$

**D.  $\frac{2}{7}$**

30. Which ratio forms a proportion with  $\frac{24}{18}$ ?

A.  $\frac{3}{4}$

B.  $\frac{5}{6}$

C.  $\frac{20}{14}$

**D.  $\frac{4}{3}$**

31. Find the total price of a pair of \$49.99 shoes at 6% tax.

A. \$45.92

B. \$46.99

C. \$54.77

**D. \$52.99**

$$49.99$$

$$\times 1.06$$

32. Find the total price of a \$599.99 television at 25% discount.

A. \$149.99

**B. \$449.99**

C. \$479.99

D. \$499.99

$$599.99$$

$$\times 0.75$$

Points(33)

33. Find the percent increase from a gallon of gas that was \$2.99 and is now \$3.99.

A. 18%

B. 23%

C. 25%

**D. 33%**

$$3.99 - 2.99 = 1$$

$$\frac{1}{2.99}$$