

Unit 1A Review

Simplify the following expressions

1. $4 - 2 * 5 + 12$

$$4 - 10 + 12$$

$$-6 + 12$$

$$\boxed{6}$$

2. $(30 - 2) \div 3$

$$28 \div 3$$

$$\boxed{9.\bar{3} \text{ OR } 9\frac{1}{3}}$$

3. $15 + 40 \div 20$

$$15 + 2$$

$$\boxed{17}$$

4. $20 + 16 - 15$

$$36 - 15$$

$$\boxed{21}$$

5. $9 \times (3 + 3) \div 6$

$$9 \times 6 \div 6$$

$$54 \div 6$$

$$\boxed{9}$$

6. $8^2 - 1 - (18 - 2) \div 8$

$$8^2 - 1 - 16 \div 8$$

$$64 - 1 - 16 \div 8$$

$$64 - 1 - 2 \quad \boxed{61}$$

7. $(10 * 2)^2 \div (1 + 4)$

$$(20)^2 \div 5$$

$$400 \div 5$$

$$\boxed{80}$$

8. $3.4 - (-12.1)$

$$3.4 + 12.1$$

$$\boxed{15.5}$$

9. $8.7 + 3.8 + 12.3$

$$\boxed{24.8}$$

10. $3.4 - 5 - 10.4$

$$\boxed{-12}$$

11. $2.2 - 7.3$

$$\boxed{-5.1}$$

12. $(-8.1) - (-8.9)$

$$\boxed{-8}$$

13. $(-5.6) - (-12.6) + (-6.6)$

$$-5.6 + 12.6 - 6.6$$

$$\boxed{.4}$$

14. $-\frac{5}{4} * \frac{1}{3}$

$$\boxed{-\frac{5}{12}}$$

15. $-2 * \frac{3}{7}$

$$\boxed{-\frac{6}{7}}$$

MULTIPLY BY
RECIPROCAL

$$16. \frac{1}{2} \div \frac{8}{7} \quad \frac{1}{2} \times \frac{7}{8}$$

$$\boxed{\frac{7}{16}}$$

MULTIPLY
BY RECIPROCAL

$$17. -\frac{3}{2} \div -\frac{10}{7} \quad -\frac{3}{2} \times -\frac{7}{10}$$

$$\boxed{\frac{-21}{20}}$$

COMMON
DENOMINATOR

$$18. -\frac{1}{3} + \frac{3}{8}$$

$$-\frac{8}{24} + \frac{9}{24}$$

$$\boxed{\frac{1}{24}}$$

$$19. \frac{1}{3} - \frac{5}{3}$$

$$\boxed{-\frac{4}{3}}$$

$$20. \frac{3}{2} + \frac{1}{2}$$

$$\boxed{\frac{3}{2}}$$

$$21. \frac{2}{5} + \frac{4}{5}$$

$$\boxed{\frac{6}{5}}$$

$$22. \frac{1}{3} - \frac{1}{3}$$

$$\boxed{0}$$

$$23. -6(5 - 4) + 10^2$$

$$-6(1) + 10^2$$

$$-6(1) + 100$$

$$-6 + 100$$

$$\boxed{94}$$

$$24. x + 2x$$

$$\boxed{3x}$$

LIKE TERMS

$$25. 4(2b) + 3b$$

LIKE TERMS

$$8b + 3b$$

$$\boxed{11b}$$

$$26. -3a + 4a$$

LIKE TERMS

$$1a$$

$$\boxed{a}$$

$$27. 1 - 3v + 10$$

LIKE TERMS

$$\boxed{-3v + 11}$$

$$28. 1 + 7(1 - 3b)$$

DISTRIBUTIVE PROPERTY

$$1 + 7 - 21b$$

LIKE TERMS

$$8 - 21b$$

$$\boxed{-21b + 8}$$

PROPER ALGEBRAIC
FORM. VARIABLES

BEFORE CONSTANTS

29. $3m - 8(7 - 4m)$ DISTRIBUTE -8

$3m - 56 + 32m$
 $(35m - 56)$ LIKE TERMS

30. $10x + 36 - 38x - 47$ LIKE TERMS

$(-28x - 11)$

31. $-44v - 59v$ LIKE TERMS

$(-103v)$

32. $6(-5n + 7)$ DISTRIBUTE 6

$(-30n + 42)$ NO LIKE TERMS

33. $(-5n + 7) * 6$ DISTRIBUTE 6

$(-30n + 42)$ NO LIKE TERMS

34. $4(3r - 8) + 2(2r - 6)$ DISTRIBUTE TO ELIMINATE PARENTHESES

$12r - 32 + 4r - 12$
 $(16r - 44)$ LIKE TERMS

35. $3(2a + 2b + 2c) - (6a + 6b + 5c)$
 DISTRIBUTE, INVISIBLE -1 IN FRONT

$6a + 6b + 6c - 6a - 6b - 5c$
 LIKE TERMS

(c)

36. Choose the best symbol for the following terms or phrases

Possible Symbols. (Can be used multiple times)				
÷	=	-	+	×
<	>	≤	≥	

Difference -

Increase +

Minus -

At least ≥

More than >

No more than ≤

Is =

Product ×

At most ≤

Quotient ÷

Less than <

Decrease -

Greater than or equal to ≥

Greater than >

Less than or equal to ≤

No less than ≥

Write the following as an algebraic expression.

37. The difference of 10 and 5

$$10 - 5$$

38. a number decreased by 15

$$n - 15$$

39. The sum of a number and 8

$$n + 8$$

40. The product of 15 and a number

$$15n$$

41. The quotient of 12 and 52

$$\frac{12}{52} \text{ or } 12/52 \text{ or } 12 \div 52$$

42. The quotient of 52 and 12

$$\frac{52}{12} \text{ or } 52/12 \text{ or } 52 \div 12$$

43. The difference of a number and 12

$$n - 12$$

44. Half of a number, increased by 15

$$\frac{n}{2} + 15$$

45. The sum of a number squared is less than or equal to 42

OMIT

46. A number increased by 12 is at least 70

$$n + 12 \geq 70$$

47. The product of 12 and a number is more than 88

$$12n > 88$$

48. The difference of 12 and a number is greater than or equal to 123

$$12 - n \geq 123$$

49. x minus 12 is no more than 17

$$x - 12 \leq 17$$

50. A mistake was made in the following problems. Identify the step where the mistake was made for each problem.

Simplify the expression

$$-4(6 + x) - 4(2x + 1)$$

Step 1: $-4(6 + x) - 4(2x + 1)$

Step 2: $-24 + x - 8x - 4$ SHOULD BE $-4x$

Step 3: $-25 - 4 + x - 8x$

Step 4: $-29 - 7x$

Simplify the expression

$$-(2x + 4y - 2) + 3x$$

Step 1: $-(2x + 4y - 2) + 3x$

Step 2: $-2x - 4y + 4 + 3x$ SHOULD BE $+2$

Step 3: $-2x + 3x - 4y + 4$

Step 4: $-3x + 4$