

NAME _____

PLACE ANSWERS IN ANSWER SPACE

SUMMER ASSIGNMENT INCOMING SOPHOMORES

Due: last week of school

1. Find the numerical value of the expression $c + xy$ when $c = 3$, $x = 4$, and $y = -5$.

2. Find the value of $6b^2 - 4a^2$ when $b = 2$ and $a = 1$.

3. If $x = 3$ and $y = -2$, find the value of $4xy^2$.

4. Which number has the greatest value?

- (1) $\sqrt{3}$ (3) $1\frac{2}{3}$
 (2) $\frac{\pi}{2}$ (4) 1.7

5. In which list are the numbers in order from least to greatest?

- (1) 3.2, π , $3\frac{1}{2}$, $\sqrt{3}$ (3) $\sqrt{3}$, π , 3.2, $3\frac{1}{2}$
 (2) $\sqrt{3}$, 3.2, π , $3\frac{1}{2}$ (4) 3.2, $3\frac{1}{2}$, $\sqrt{3}$, π

6. Which expression represents an irrational number?

- (1) $\sqrt{2}$ (3) 0.17
 (2) $\frac{1}{2}$ (4) 0

7. In the set of rational numbers, what is the identity element for multiplication?

8. What is the multiplicative inverse of $\frac{3}{4}$?

9. What is the reciprocal of $-\frac{2}{9}$?

10. For which value of x is the expression $\frac{x-1}{x+2}$ undefined?

11. Which property of real numbers for addition and multiplication is shown by the example below?
 $11 + 15 = 15 + 11$

- (1) closure (4) inverse
 (2) commutative (5) distributive
 (3) associative

12. What is the product of $3a^2b$ and $-4a^3b^4$?

- (1) $-12a^5b^5$
 (2) $-a^5b^5$
 (3) $-12a^5b^4$
 (4) $-a^5b^4$

13. Find the quotient: $\frac{-4a^7}{24a^5}$

14. If $-18x^4y$ is divided by $-2xy$, what is the quotient?

15. The Earth is approximately 93,000,000 miles from the Sun. If this distance is expressed as 9.3×10^n , what is the value of n ?

16. Barbara worked as a waitress last summer and made 7.8×10^3 in tips. Express her income in tips as an integer.

17. Find the sum of $3x^2 + 5x - 1$ and $x^2 - 2x - 7$.

18. From $9x^2 - 8x + 6$, subtract $7x^2 - 2x + 6$.

19. Find the sum of $5x^2 - 3x + 2$ and $3x^2 - 4x - 1$.

20. Simplify by combining like terms:
 $(3a + b) - (a + b)$

21. Express the product $(x - 3)(x + 8)$ as a trinomial.

22. Express the sum of $\frac{x}{3}$ and $\frac{x}{5}$ as a single fraction in lowest terms.

23. Express $\frac{5x}{6} - \frac{x}{3}$ in simplest form.

24. The expression $\sqrt{500}$ is equivalent to
 (1) $50\sqrt{10}$ (3) $10\sqrt{5}$
 (2) $5\sqrt{10}$ (4) $10\sqrt{50}$

25. The sum of $\sqrt{12}$ and $\sqrt{75}$ is
 (1) $7\sqrt{3}$ (3) $7\sqrt{6}$
 (2) $29\sqrt{3}$ (4) $\sqrt{87}$

26. Solve for x : $\frac{2}{3}x = 12$

27. Solve for x : $\frac{4x}{3} - 6 = 10$

28. Solve for x : $4(2x - 1) = 20$

29. Solve for x : $58 = 10x - 2$

30. Solve for x : $8x - 5(x - 1) = 20$

31. Solve for x : $2(3x - 3) + 2 = 26$

32. Solve for x : $8x = 2(x + 15)$

33. Solve for x : $7(x - 2) = 5(x + 4)$

34. Solve for x : $3x + 3 = 15 + 9x$

35. Solve for x : $3x + 6 = 5x + 12$

36. Solve for x : $3x + 2 > 32$

37. If the area of a square is 49, what is its perimeter?

38. The sides of a triangle are represented by $2a$, $3a - 4b$, and $a + 2b$. Express the perimeter of the triangle as a binomial in terms of a and b .

39. The perimeter of a square is represented by $8x - 8$. Express the length of one side of the square in terms of x .

40. The side of a square is represented by $(x + 3)$. Express the perimeter of the square in terms of x .

41. If a parallelogram has a base of $6x$ and a height of $2x$, what is the area of the parallelogram in terms of x ?

- (1) $12x$
- (2) $16x$
- (3) $12x^2$
- (4) $16x^4$

42. Find the number of square centimeters in the area of a triangle with a base of 10 centimeters and an altitude of 5 centimeters.

43. What is the volume, in cubic centimeters, of a cube whose edge measures 2 centimeters?

44. The area of a circle is 49π . Find, in terms of π , the circumference of the circle.

45. The circumference of a circle is 128π . What is the radius of the circle?

46. What is the diameter of a circle whose circumference is equal to 20π ?

47. If the measure of two complementary angles are in the ratio 2:7, find the measure of the larger angle.

48. If two supplementary angles are in the ratio 8:1, how many degrees are in the measure of the smaller angle?

49. If two angles are supplementary and one angle is twice as large as the other, find the number of degrees in the measure of the *smaller* angle.

50. Solve for x : $3(x - 2) + 5 = 2(5x - 4)$

ANSWERS

1)	2)
3)	4)
5)	6)
7)	8)
9)	10)
11)	12)
13)	14)
15)	16)
17)	18)
19)	20)
21)	22)
23)	24)
25)	26)
27)	28)
29)	30)
31)	32)
33)	34)
35)	36)
37)	38)
39)	40)
41)	42)
43)	44)
45)	46)
47)	48)
49)	50)