

**SAINT DOMINIC ACADEMY
MATHEMATICS DEPARTMENT**



**ENTERING ALGEBRA I
2023 SUMMER PACKET**

DUE ON THE FIRST DAY OF SCHOOL

DIRECTIONS

SHOW YOUR WORK! Show all necessary and complete work in PENCIL.
Write legibly and as neatly as possible.

Cheating is prohibited.

CALCULATOR IS NOT ALLOWED

Name: _____

Signature: _____

Practice Final Exam

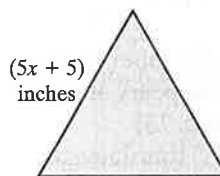
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____
13. _____
14. _____
15. _____
16. _____
17. _____
18. _____
19. _____
20. _____
21. _____
22. _____
23. _____
24. _____
25. _____
26. _____

Simplify by performing the indicated operations.

1. $2^3 \cdot 5^2$
2. $16 + 9 \div 3 \cdot 4 - 7$
3. $18 - 24$
4. $5 \cdot (-20)$
5. $\sqrt{49}$
6. $(-5)^3 - 24 \div (-3)$
7. $0 \div 49$
8. $62 \div 0$
9. $-\frac{8}{15y} - \frac{2}{15y}$
10. $\frac{11}{12} - \frac{3}{8} + \frac{5}{24}$
11. $\frac{3a}{8} \cdot \frac{16}{6a^3}$
12. $-\frac{16}{3} \div -\frac{3}{12}$
13. $19 - 2\frac{3}{11}$
14. $\frac{0.23 + 1.63}{-0.3}$
15. 10.2×4.01
16. Write 0.6% as a decimal.
17. Write 6.1 as a percent.
18. Write $\frac{3}{8}$ as a percent.
19. Write 0.345 as a fraction.
20. Write $-\frac{13}{26}$ as a decimal.
21. Round 34.8923 to the nearest tenth.

Evaluate each expression for the given replacement values.

22. $5(x^3 - 2)$ for $x = 2$
23. $10 - y^2$ for $y = -3$
24. $x \div y$ for $x = \frac{1}{2}$ and $y = 3\frac{7}{8}$
25. Simplify: $-(3z + 2) - 5z - 18$
26. \triangle Write an expression that represents the perimeter of the equilateral triangle. Then simplify the expression.



Solve each equation.

27. $\frac{n}{-7} = 4$

28. $-4x + 7 = 15$

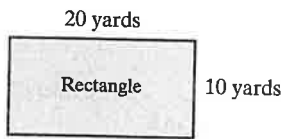
29. $-4(x - 11) - 34 = 10 - 12$

30. $\frac{x}{5} + x = -\frac{24}{5}$

31. $2(x + 5.7) = 6x - 3.4$

32. $\frac{8}{x} = \frac{11}{6}$

- △ 33. Find the perimeter and area.



Solve.

35. The difference of three times a number and five times the same number is 4. Find the number.

36. During a 258-mile trip, a car used
- $10\frac{3}{4}$
- gallons of gas. How many miles would we expect the car to travel on 1 gallon of gas?

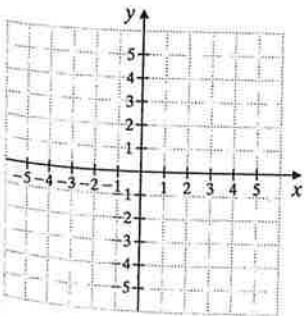
37. In a 10-kilometer race, there are 112 more men entered than women. Find the number of female runners if the total number of runners in the race is 600.

38. The standard dose of medicine for a dog is 10 grams for every 15 pounds of body weight. What is the standard dose for a dog that weighs 80 pounds?

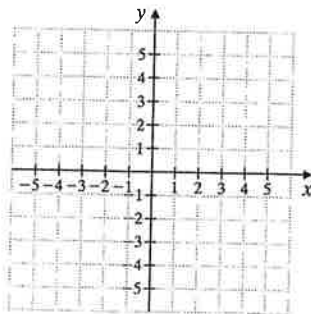
39. A \$120 framed picture is on sale for 15% off. Find the discount and the sale price.

Graph each linear equation.

40. $y + x = -4$



41. $y = 3x - 5$



27. _____

28. _____

29. _____

30. _____

31. _____

32. _____

33. _____

34. _____

35. _____

36. _____

37. _____

38. _____

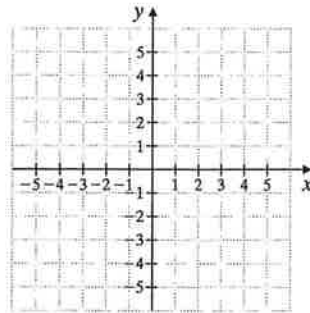
39. _____

40. _____

41. _____

42. _____

42. $y = -4$



43. _____

43. Add: $(11x - 3) + (4x - 1)$

44. _____

44. Subtract $(8a^2 + a)$ from $(6a^2 + 2a + 1)$.

Multiply and simplify.

45. _____

45. $(6a^3)(-2a^7)$

46. $(3a^4b)^2(2ba^4)^3$

46. _____

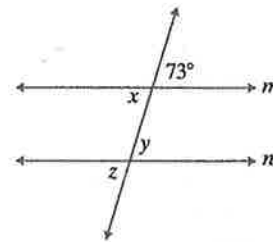
47. $(x - 3)(x + 2)$

48. Factor out the GCF: $3y^2 - 15y$

47. _____

49. Find the complement of a 78° angle.

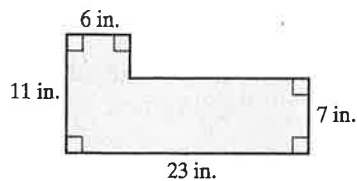
50. Given that $m \parallel n$, find the measures of x , y , and z .



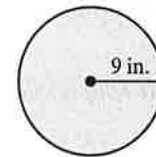
48. _____

49. _____

51. Find the perimeter and area.



52. Find the circumference and area. Give the exact values and then approximations using $\pi \approx 3.14$.



50. _____

51. _____

52. _____

Convert.

53. $2\frac{1}{2}$ gallons to quarts

54. 2.4 kilograms to grams

53. _____

54. _____