

Be sure to show all your work for the problems.

I. Determine the slope of the line through each pair of points.

1. $(5, 1)$ and $(2, 7)$

2. $(5, 3)$ and $(-2, 3)$

3. $(-\frac{1}{2}, -2)$ and $(-\frac{3}{2}, 1)$

4. $(2, -4)$ and $(2, 6)$

II. Determine the equation for each line, using the information given.

5. slope 5, containing the point $(3, 2)$

6. containing the points $(0, 2)$ and $(2, 0)$

7. parallel to the line $y = -2x + 3$, containing the point $(-2, -1)$

III. Solve for x .

8. $5x + 3 = -12$

9. $(6x - 8) - (5x + 9) = 3$

10. $7x - 8x + 4 = 5x - 2$

11. $3(x - 2) = 18$

IV. Solve for x.

12. $(3x + 2) - 2(x + 4) = 7$

13. $\frac{x+2}{3} = \frac{8}{15}$

14. $\frac{18}{x} = 6$

15. $\frac{5}{7} = \frac{10}{y+2}$

V. Determine the area and perimeter of each figure:

16. Rectangle with length 3.6 cm and width 4.2 cm

17. Square with sides of length 9 mm

VI. Using the given information, determine each answer

18. Area and circumference of a circle with radius 4 in.

19. Area and circumference of a circle with diameter 9 in

20. Circumference of a circle with area = 36π square centimeters

VII. Simplify

21. $\sqrt{81}$

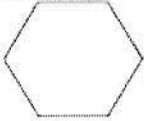
22. x^3x^6

23. $\frac{4x^5y^2}{2x^6y}$

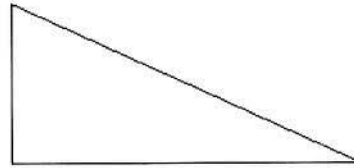
24. $(5x^3y^2)^2$

VIII. Identify each figure by name.

25.



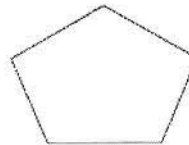
26.



27.



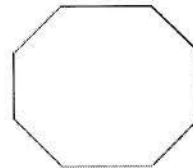
28.



29.



30.



IX. Solve each equation either by factoring or using the quadratic formula.

31. $x^2 + 3x = 0$

32. $x^2 - 5x - 24 = 0$

33. $3x^2 + x - 4 = 0$