



Summer Assignment Intermediate Algebra

Directions: Show all work for the following problems. You may NOT use a calculator on this assignment.

Academic Integrity: All work should be completed independently and without the assistance of unapproved resources. Any work violating academic integrity will be subject to a “0” and any additional consequences as outlined in the Knox Academic Integrity Policy attached to this assignment.

Due Date: Your work is due the first day of your Intermediate Algebra class. All late work will be subjected to a grade reduction or penalty as outlined in the course syllabus and copied below:

All major assignments not submitted on the due date will face a 10% deduction of max points per day for up to five (5) days and up to a 50% deduction.

Summer Assignments for AP Classes that are not submitted on time will result in the student being dropped from the course.

If you have any questions or concerns regarding this assignment, please contact the Dean of Academics, Mrs. Pergola, at dpergola@knoxschool.org.

Evaluate the expression:

$$1) 5 - 3 + 12 - (-9) =$$

$$2) 48 \div (5 + 7) - 9 =$$

$$3) \frac{3}{4} + \frac{1}{6} =$$

$$4) \left(\frac{3}{5}\right)\left(\frac{7}{12}\right) =$$

$$5) (-3)^0 =$$

$$6) 24 \cdot \frac{4}{3} =$$

Solve for the variable each equation:

7) $3x - 5 = 13$

8) $-21 - 5z = 64$

9) $\frac{1}{4}d + 2 = 3$

10) $18y - 21 = 15y + 3$

11) $24 = \frac{5}{8}x + 4$

Translate each verbal expression into an algebraic expression:

12) The sum of six times a number and twenty-five

13) Seven less than fifteen times a number

14) Four times the square of a number increased by five times the same number

Find the product:

15) $(2x + 1)(x - 3)$

16) $(x^2 + 5x)^2$

17) $(x - 1)(x^2 + 2x - 3)$

Simplify the expression:

18) $b^7 \cdot b^{11}$

19) $\frac{b^{-3}}{b^7}$

20) $4x + 7y - 14x + 2y$

21) $20xy - 3x^2y - 10x^2y - 30xy$

Evaluate the radicals. Leave in simplest radical form, no decimals:

22) $\sqrt{18}$

23) $\sqrt{32x^3}$

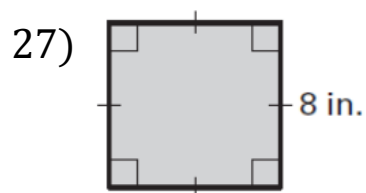
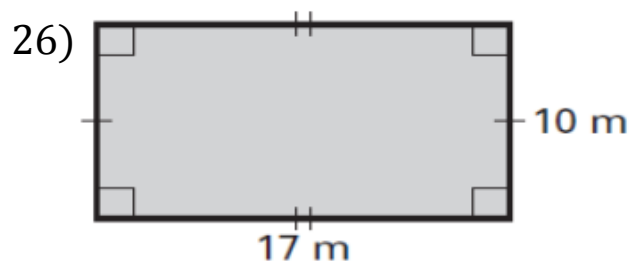
24) $\sqrt{60x^2y^4}$

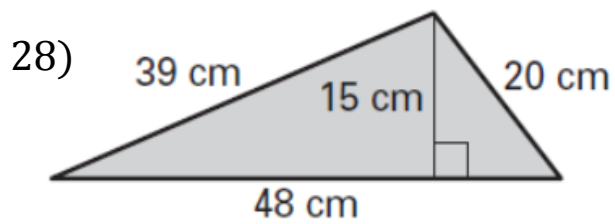
Solve the linear system for both variables:

25) $y = x + 2$

$3x + 2y = 9$

Find the perimeter and area for each polygon:





Determine if the table of values is a function or not. Explain:

29)

x	y
1	4
2	3
3	2
4	1

30)

x	y
4	-2
1	-1
0	0
1	1
4	2

Make a table of values for the function (Use $-2 \leq x \leq 2$ for the domain):

31) $y = 3x - 7$

x	y

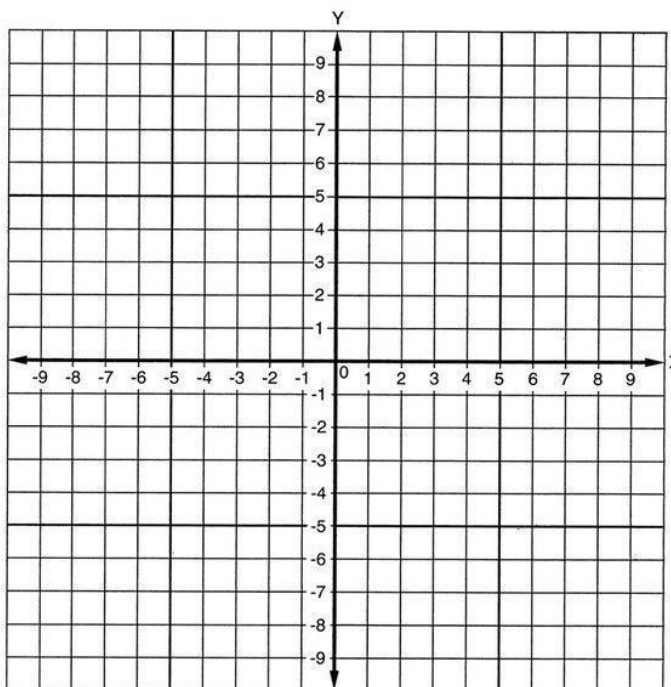
x	y

32) $y = \frac{5}{2}x - \frac{1}{2}$

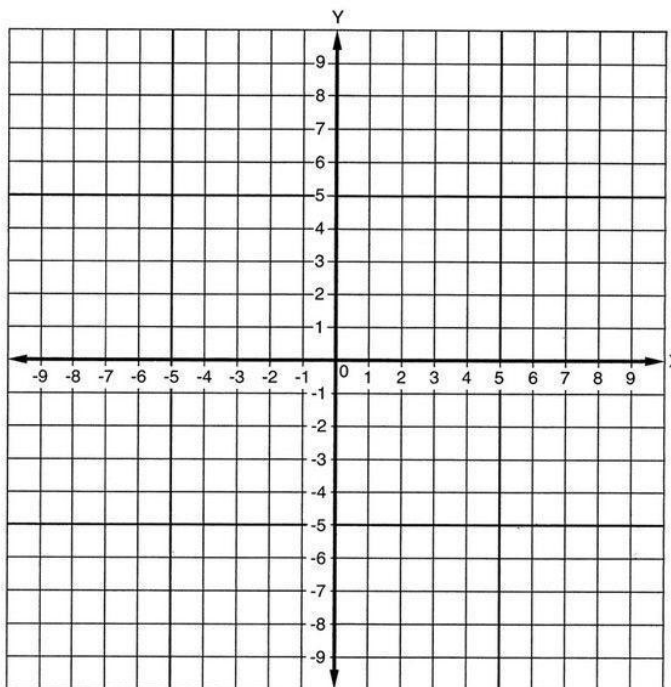
Graph the functions. Use the provided graph for your final work:

***Complete and show all work by hand, do not use a calculator to graph the functions**

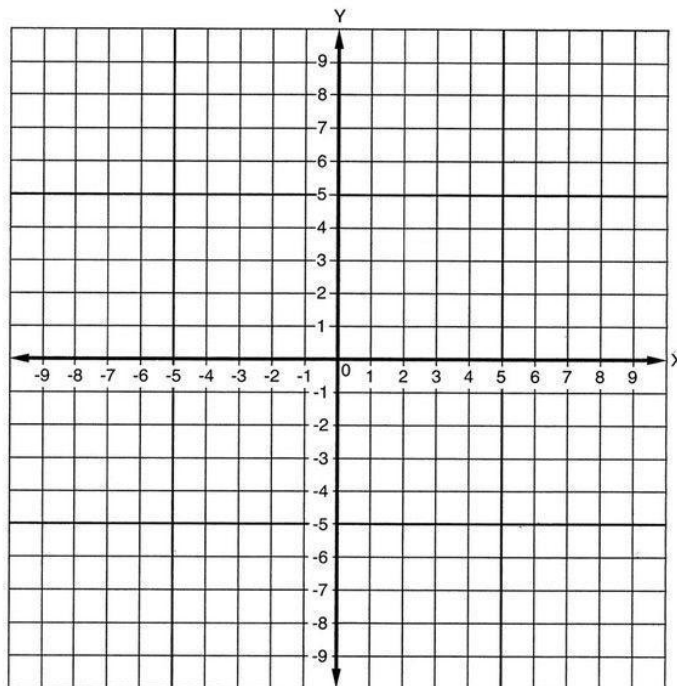
33) $y = 3x + 2$



34) $y = \frac{2}{3}x - 4$

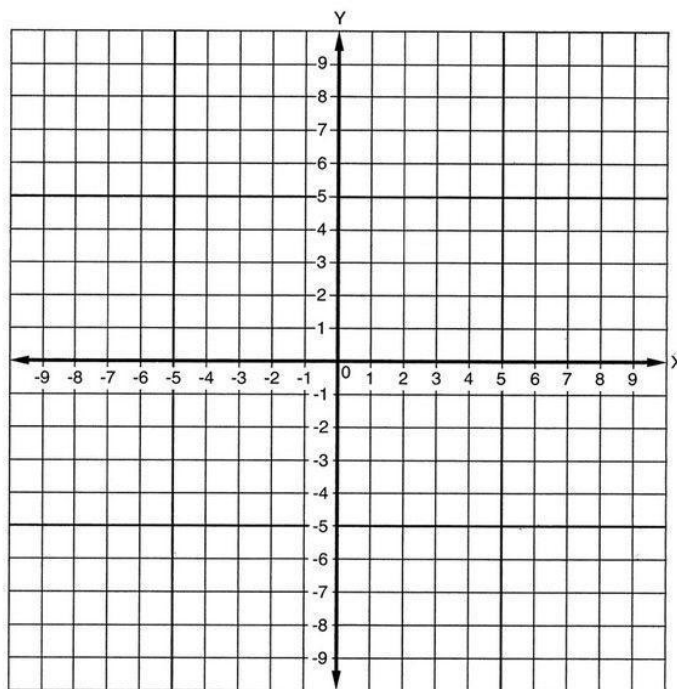


35) $y = 2x^2$



Graph the system and identify the solution:

36) $-x + y = 3$ and $3x - y = 5$



Solve the quadratic equation using whichever method you would like:

37) $x^2 + 4x - 5 = 0$

38) $x^2 - x - 12 = 0$

39) $2x^2 - 5x + 2 = 0$

40) $x^2 - 9 = 0$