



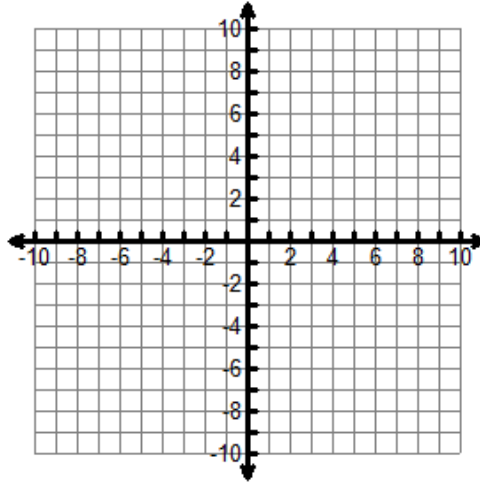
Name: _____

1) Circle the rational numbers.

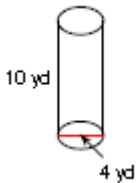
- $\sqrt{9}$ $\frac{5}{3}$ $\sqrt{50}$ $0.\bar{3}$ $4\frac{2}{9}$ -5 $5\sqrt{2}$

2) If a cube has a volume of 120 cm^3 , what would be the length of each side to the nearest tenth?
(Show your work.)

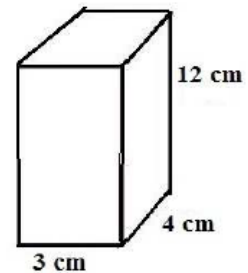
3) Graph the line with a slope of $\frac{1}{3}$ that passes through the point (4, 6).



4) Find the volume of the cylinder to the nearest tenth. (Show all work.)



5) Determine the volume of the prism to the nearest tenth. (Show all work.)



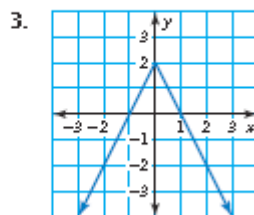
6) Does the table or graph represent a *linear* or *nonlinear* function? Explain.

1.

x	y
0	25
7	20
14	15
21	10

2.

x	y
2	8
4	4
6	0
8	-4



- _____
- _____
- _____

7) Simplify. $2[(3 + 8) - 5(2 - 10)]$ (Show your work.) _____

8) An electrician charges \$50 plus \$15 per hour. What is the cost for a 2 hour job? _____
(Show your work.)

9) Evaluate $3x - y + 10$ if $x = 5$ and $y = -4$. (Show your work.) _____

10) Write an algebraic expression for **each** of the following.

a. five more than 10 times a number _____

b. the difference of ten times a number and five _____

c. the product of ten and five less than a number _____

d. five less than ten and a number _____

11) Find the solution. (Show your work.) $\frac{f}{6} - 10 = 25$

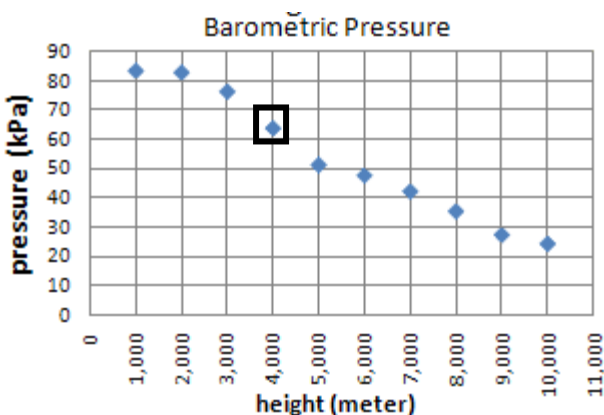
12) State the domain and range of the following relation. Is the relation a function?
 $\{(-3, 5), (-2, 5), (-1, 5), (0, 5), (1, 5), (2, 5)\}$

Domain: _____

Range: _____

Function? _____

13) The scatter plot below compares the height to the pressure. Describe what the point with the box around it represents.



14) Find the sum. $-2 + |-8|$ _____

15) Simplify. $8(x - 7)$ _____

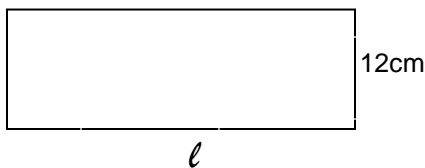
16) Simplify. $6a + 2(a - 5)$ _____ (Show all steps.)

17) Solve. (Show all work.) $2.6 + 2x = -3.8$

18) Solve. (Show all work.) $5k - 8k - 60 = 33$

19) The formula $F = \frac{9}{5}C + 32$ is used to convert the temperature in degrees Celsius to degrees Fahrenheit. If the temperature outside is 26° Celsius, what is the temperature in degrees Fahrenheit? (Show all work.)

20) The perimeter of the rectangle shown is 98cm. Find the length. (Show all work.)



21) Write each as a multiplication expression. x^4 _____

4^5 _____

$5y^3$ _____

22) Write each using exponents. $6 \cdot 6 \cdot 6 \cdot 6$ _____

$5 \cdot x \cdot x \cdot x \cdot x$ _____

$8 \cdot w \cdot w \cdot z \cdot z \cdot z \cdot z$ _____

23) Evaluate $3(x - y)^2$ if $x = -5$ and $y = 2$. (Show your work.)

24) Express each with positive exponents.

5^{-2} _____ x^{-7} _____ $\frac{1}{3^{-2}}$ _____

$\frac{1}{x^{-5}}$ _____ $-x^{-3}$ _____ $-\frac{1}{5^{-3}}$ _____

25) Express each with negative exponents.

5^2 _____ x^7 _____ $\frac{1}{3^2}$ _____

$\frac{1}{x^5}$ _____ $-x^3$ _____ $-\frac{1}{5^3}$ _____

26) How would each be written in standard form?

7.2×10^{-5} _____

-2.6×10^8 _____

27) Simplify $x^4 \cdot x^3$ _____

28) How would each be written in scientific notation?

87,000,000,000 _____

0.000 000 001 9 _____

-2,450,000 _____

29) Simplify. $\frac{u^8}{u^5}$ _____

30) Solve the formula $A = \frac{1}{2}(b_1 + b_2)h$ for b_1 if $A = 65$, $b_2 = 10$, and $h = 4$. (Show all work.)

31) Write an equation to determine the number of tickets sold for a ballgame if the tickets cost \$6 each and \$768 was collected. (Let t = the number of tickets sold.)

32) Write each as a fraction in simplest form.

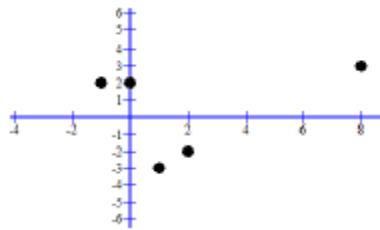
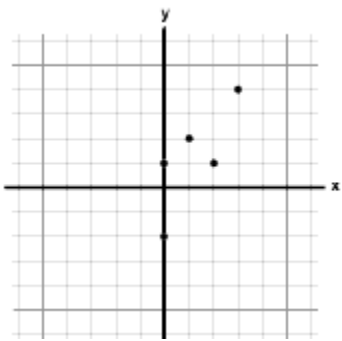
$0.\bar{8}$ _____ $2.\bar{3}$ _____ 0.8 _____ 2.3 _____

33) Solve $-2y + 15 \geq -11$ (Show all work.)

34) Solve $2y + 10 \geq 22$ (Show all work.)

Name a value for y that makes the inequality true. _____

35) Is each relation whose graph is shown below a function? Explain why or why not.



36) Is each relation whose table is shown below a function? Explain why or why not.

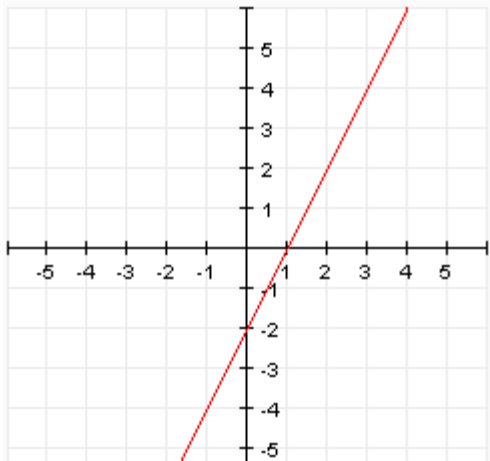
x	y
-3	0
-1	-1
0	0
2	-2
3	4

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

37) State whether each is a solution for $y = 3x + 7$

$(2, 13)$ _____ $(13, 2)$ _____ $(0, 7)$ _____ $(-3, -2)$ _____

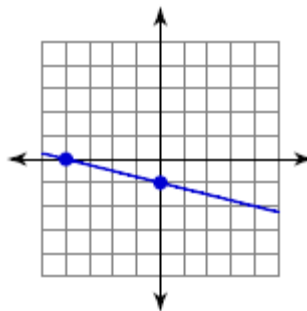
38) What are the x- and y- intercepts of the graph below.



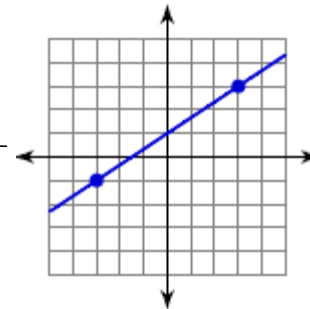
x-intercept _____

y-intercepts _____

39) Find the slope of the line. _____



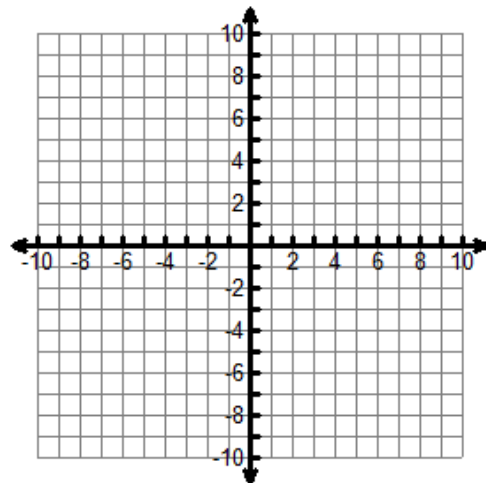
40) Write the equation of the line. _____



41) State the slope and the y-intercept of the graph of $y = 5x - 4$

$m =$ _____ $b =$ _____

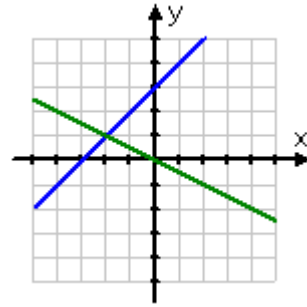
42) Graph $y = -\frac{1}{4}x + 3$ using the slope and y-intercept.



43) Use the table of values to write an equation in slope-intercept form. _____

x	-1	0	1	2
y	-8	-5	-2	1

44) What is the solution of the system of equations shown to the right? _____

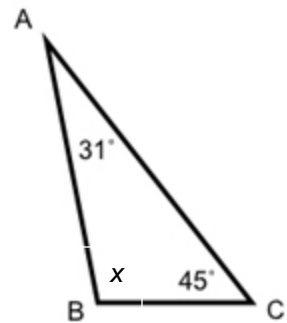


45) What is $\sqrt{1.21}$? _____

46) Estimate $\sqrt{28}$ to the nearest whole number _____

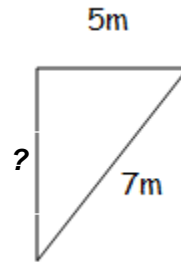
47) Order $5\frac{1}{4}$, $\sqrt{27}$, $5.\bar{3}$, $\sqrt{36}$ from least to greatest. _____

48) Find the value of x in $\triangle ABC$ _____

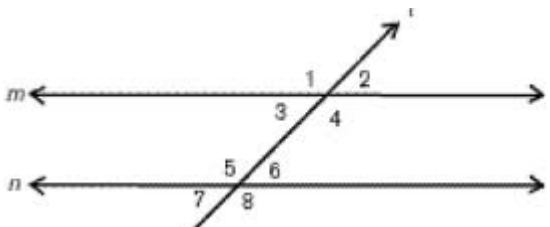


49) Determine the missing measure to the nearest tenth.

(Show all work.) _____



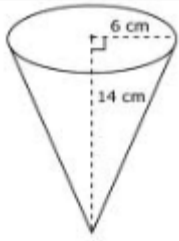
50) In the figure, $l \parallel m$ and t is a transversal. If $m\angle 2 = 28^\circ$, find the $m\angle 7$. _____



51) If $m\angle 1 = 34^\circ$ and $\angle 1$ and $\angle 2$ are supplementary, what is the $m\angle 2$? _____

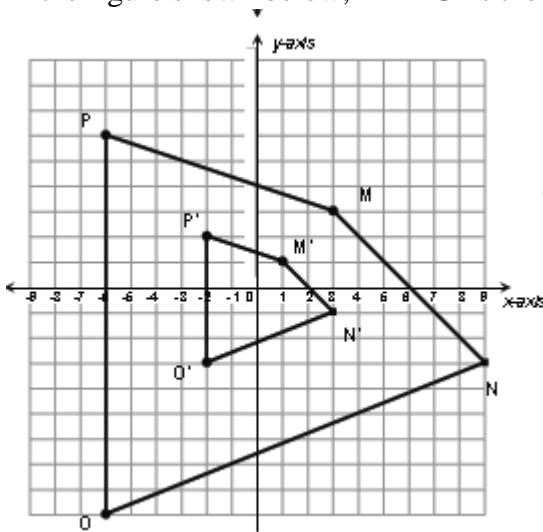
52) A point Q is located at $Q(5, 2)$. Find the coordinates of Q' if Q is reflected over the x-axis. _____

53) Determine the volume of the cone to the nearest tenth. (Show all work.) _____

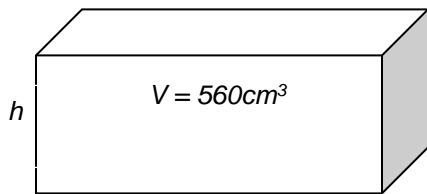


54) What is the next term in the sequence $-5, 10, -20, 40, \dots$? _____

55) In the figure shown below, $\Delta A'B'C'$ is the image produced by applying a dilation to ΔABC .
What is the scale factor for this dilation?



56) The volume of the prism is 560cm^3 . The area of the base is 112cm^2 . Find the height.



height: _____

57) Find the value of $\sqrt[3]{343}$

58) Triangle ABC has vertices at A(3, 5), B(-1, -3), C(4, -6). This triangle is rotated 90° clockwise. What is the location of point C'?
