

Unit 2 Review

Solve each equation. Justify each step of solving the equation using the properties we discussed at the beginning of Unit 2.

1) $8 = 2n - 4n$

2) $0 = -7p - 6p$

3) $-4 + 7x = 3(8 + x)$

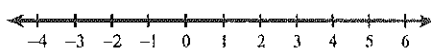
4) $-14 + 4n = -(-7n - 1)$

Solve each inequality and graph its solution.

5) $8n + 5 + 4n < -19$



6) $-8r - 2 + 1 < -1$



Write the slope-intercept form of the equation of the line through the given points.

7) through: $(4, 2)$ and $(2, -2)$

Write the slope-intercept form of the equation of the line through the given point with the given slope.

8) through: $(2, 4)$, slope = 3

Write the slope-intercept form of the equation of each line.

9) $2 = -3x - y$

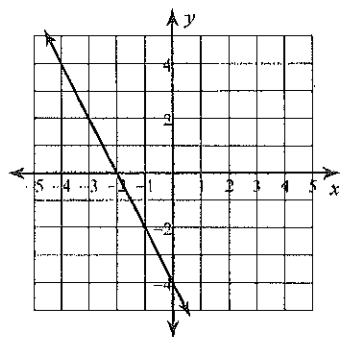
10) $2x - 3y = 3$

Write the slope-intercept form of the equation of each line given the slope and y-intercept.

11) Slope = -1 , y-intercept = -5

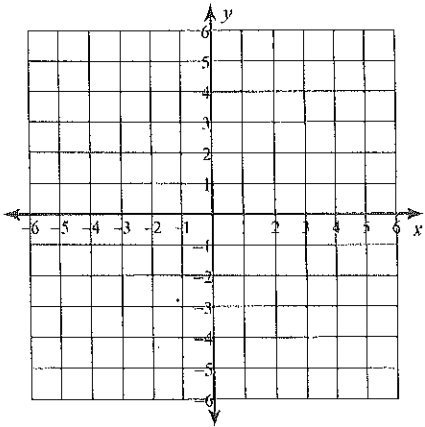
Write the slope-intercept form of the equation of each line.

12)

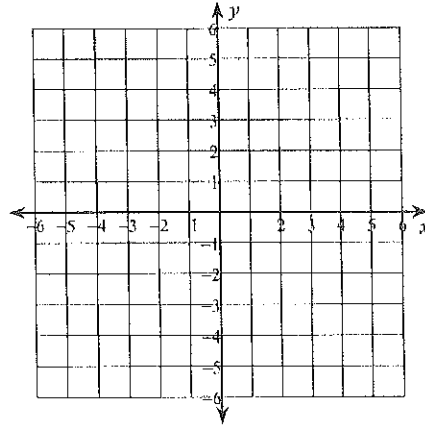


Sketch the graph of each line.

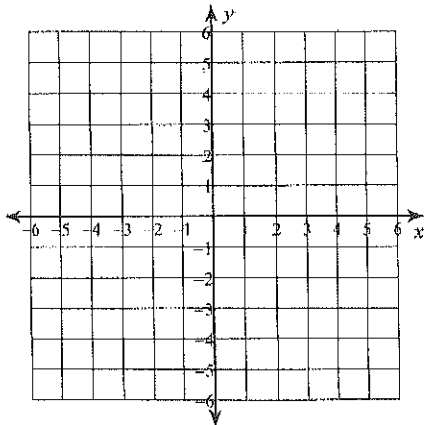
13) x -intercept = -2 , y -intercept = 1



14) $x + y = 3$

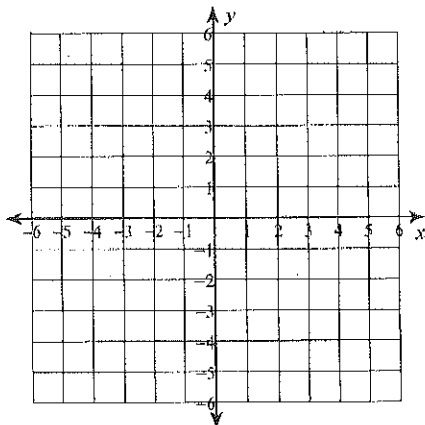


15) $y = x - 2$

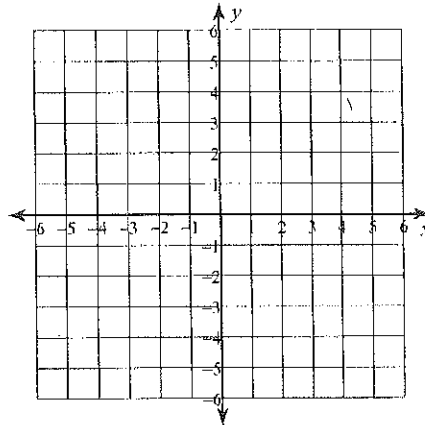


Sketch the graph of each linear inequality.

16) $y \leq 7x + 2$



17) $7x - y \geq -3$



Solve each system by graphing.

18) $y = -4$
 $y = -7x + 3$

Solve each system by elimination.

19) $2x + 7y = 9$
 $9x - 14y = -5$

20) $3x + 7y = -23$
 $10x + 5y = 15$

Evaluate each function.

21) $p(x) = 3x + 4$; Find $p(2)$

22) $g(a) = 3a - 1$; Find $g(6)$

23) $h(n) = 2n + 3$; Find n if $h(n) = 13$

24) $h(x) = 4x + 5$; Find x if $h(x) = -101$

Find the common difference, the term named in the problem, and the explicit formula.

25) $-10, 190, 390, 590, \dots$
Find a_{37}

Find the common difference, the recursive formula, and the three terms in the sequence after the last one given.

26) $28, 34, 40, 46, \dots$

Given two terms in an arithmetic sequence find the explicit formula.

27) $a_{14} = -70$ and $a_{39} = -270$

Given the first term and the common difference of an arithmetic sequence find the explicit formula.

28) $a_1 = -31, d = -3$

Given a term in an arithmetic sequence and the common difference find the explicit formula.

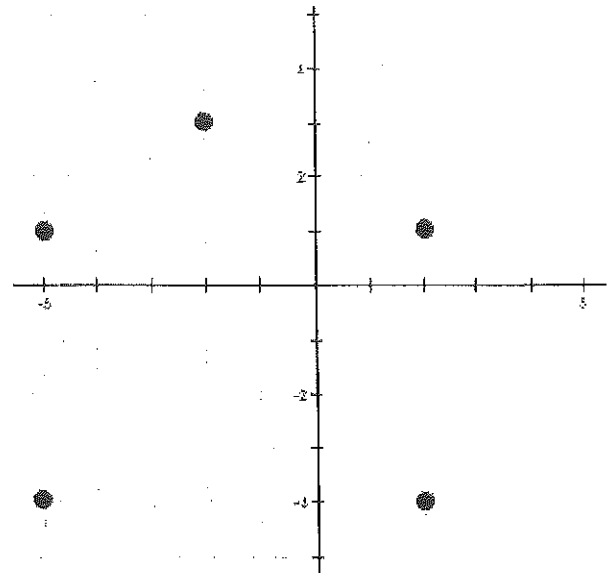
29) $a_{16} = 170, d = 10$

Define variables. Write a system of equations. Solve your system.

30) Totsakan's school is selling tickets to a fall musical. On the first day of ticket sales the school sold 6 adult tickets and 2 student tickets for a total of \$96. The school took in \$232 on the second day by selling 2 adult tickets and 14 student tickets. Find the price of an adult ticket and the price of a student ticket.

31) Micaela and Jasmine each improved their yards by planting rose bushes and ivy. They bought their supplies from the same store. Micaela spent \$253 on 11 rose bushes and 12 pots of ivy. Jasmine spent \$132 on 6 rose bushes and 6 pots of ivy. Find the cost of one rose bush and the cost of one pot of ivy.

32) Write the domain and range of the following set of points:



33) Label the following characteristics of the given function:

Domain:

Range:

x-int:

y-int:

intervals of increase:

intervals of decrease:

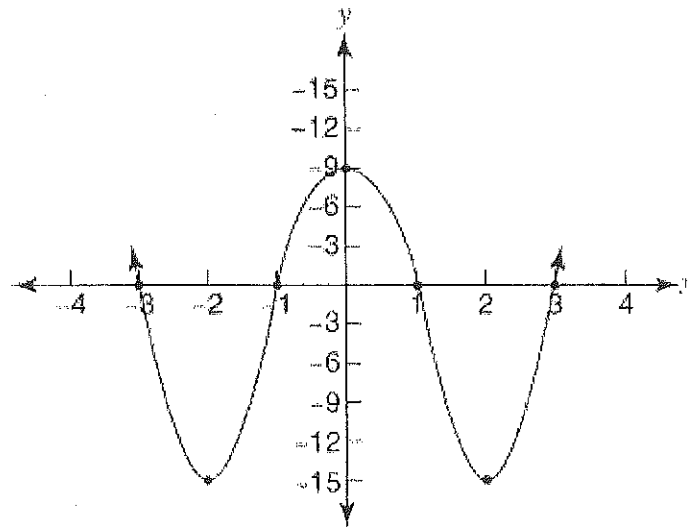
positive intervals:

negative intervals:

maximums:

minimums:

rate of change from $x=-2$ to $x=1$:



34) Solve for a: $M = \frac{a+b}{2}$

35) Solve for p: $\frac{1}{2}(p + q) = m$