Math102 Mathematical Concepts II – Spring 2008 – DLA – PreTest 2

Name_____

Each of the 19 questions is worth 5 points plus 1 points for each of 5 homework problems for a total of 100

Evaluate the expression.

1) $(5 - 6) - (-10 + 11)$

2) $[(-2)(-2)] \cdot [9(-9)]$

Express the terminating decimal number as a quotient of two integers.

3) 6.05

Express the repeating decimal number as a quotient of two integers.

4) 0.585858 . . .

Decide if the number is rational or irrational.

5) $-\sqrt{169}$

State the name of the property illustrated.

6) $(1 \cdot 3) \cdot 9 = 1 \cdot (3 \cdot 9)$

Use the distributive property to multiply. Then, if possible, simplify the resulting expression.

7) $3(x + 4)$

Evaluate.

8) $(x + 3y)^2$ for $x = 4$, $y = 3$

Combine like terms.

9) $12x - 6y + 7 - 8x - 2 - 4y$

Solve the equation.

10) $4(5x - 1) = 16$

Translate the statement into a mathematical equation.

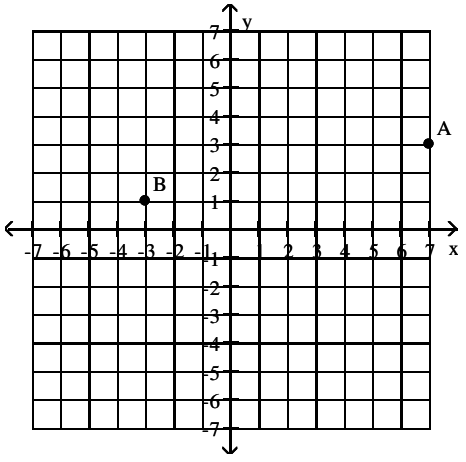
11) 5 times a number added to 8 times the number equals 16.

Solve the problem.

12) A baseball team played 177 complete games last season. They had 33 fewer wins than losses. How many games did the team win?

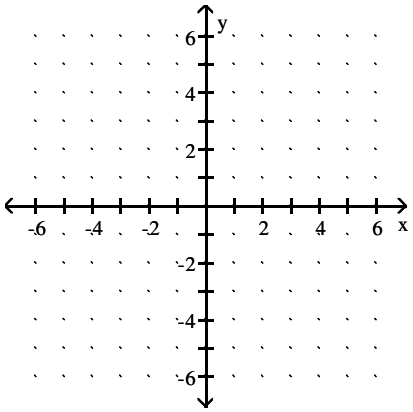
Give the coordinates of the points shown on the graph.

13)



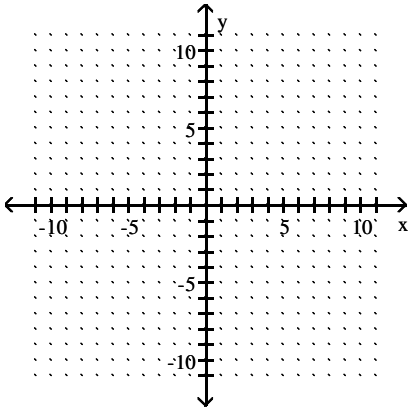
Graph the equation.

14) $y = 3x + 5$



Graph the linear inequality.

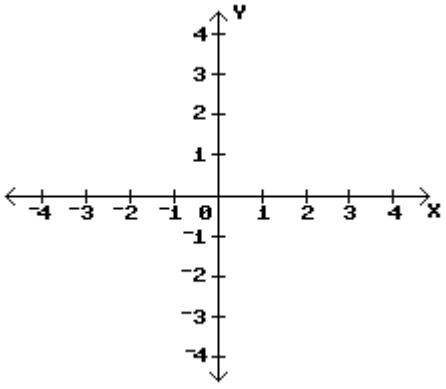
15) $3x + y \leq 3$



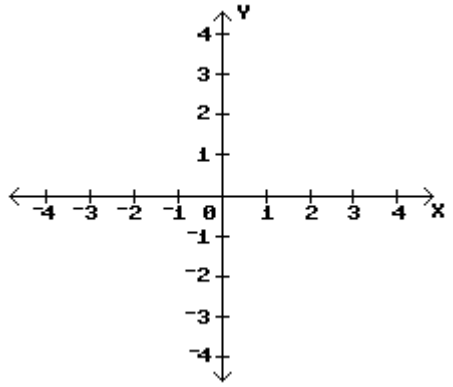
Graph the system of linear inequalities.

16) $2x + y \leq 4$

$x - 1 > 0$

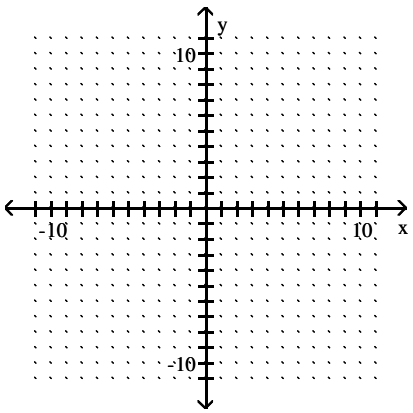


17) $2x + y \leq 4$
$y - 1 < 0$



Use graphical methods to solve the linear programming problem.

18) $2x + 3y \leq 12$
$2x + y \leq 8$
$x \geq 0$
$y \geq 0$
Maximize $P = 6x + 7y$



The Acme Class Ring Company designs and sells two types of rings: the VIP and the SST. They can produce up to 24 rings each day using up to 60 total man–hours of labor. It takes 3 man–hours to make one VIP ring, versus 2 man–hours to make one SST ring.

19) How many of each type of ring should be made daily to maximize the company's profit, if the profit on a VIP ring is $30 and on an SST ring is $40?