

MAT 055 Practice Test Chapters 9 and 11

All test answers are to be in simplest form. A calculator may be used.

Cell phones, iPads, and other electronic devices with scanning or photo ability may NOT be used.

No notes, no books, no homework may be used while taking this test.

Solve the equation.

1) $5x - (3x - 1) = 2$

Answer: $\frac{1}{2}$

2) $\frac{1}{5}a - \frac{1}{5} = -5$

Answer: -24

3) $-11.3w + 1.5 = -76.9 - 1.5w$

Answer: 8

Solve the formula for the specified variable.

4) $V = \frac{1}{3}Bh$ for h

Answer: $h = \frac{3V}{B}$

5) $P = 2L + 2W$ for W

Answer: $W = \frac{P - 2L}{2}$

Determine whether the given value is a solution of the inequality.

Answer YES or NO and show work supporting your answer

6) $6(x - 4) \geq 6 - 9(x - 8)$, $x = -5$

Answer: Yes

7) $\frac{2}{5}x - \frac{1}{3} \leq x + \frac{1}{10}$, $x = \frac{2}{5}$

Answer: No

Solve the inequality.

Write the answer in interval notation.

8) $1 + 4z - 1 \geq 3z + 5$

Answer: $\{z | z \geq 5\}$

9) $1(x - 2) - 27x < -6(4x + 4) - 3x$

Answer: $\{x | x < -22\}$

Decide whether or not the ordered pair is a solution of the system. Answer YES or NO.

Show work that supports your answer.

10) $(-2, -5)$ Answer _____

$x + y = -3$

$x - y = 7$

Answer: No

11) $(3, -3)$ Answer _____

$y = 6 - 3x$

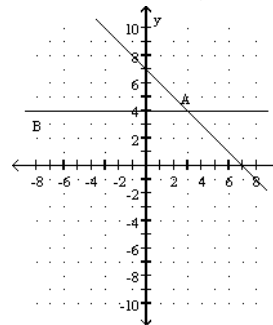
$2x = -3 - 3y$

Answer: Yes

The graphs of two equations are shown.

Identify the solution to both equations.

12) Solution to the system is _____



Answer: (3, 4)

Solve the system of equations using your choice of method.

13) $x - 6y = -9$

$2x - 6y = -6$

Solution to the system is _____

Answer: (3, 2)

14) $5x - 7y = -3$

$5x - 7y = -8$

Solution to the system is _____

Answer: No solutions

- 15) $2x + 4y = 13$
 $8x + 16y = 52$
 Solution to the system is _____
 Answer: Infinitely many

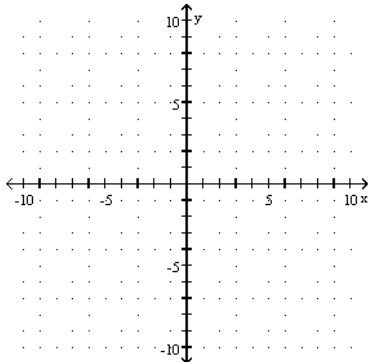
Solve the system of equations using your choice of method.

- 16) $-7x - 6y = -63$
 $4x - 2y = 36$
 Solution to the system is _____
 Answer: $(-7, 3)$

- 17) $\begin{cases} x + y = 20 \\ y = 9x \end{cases}$
 Solution to the system is _____
 Answer: $(2, 18)$

Solve the system of equations graphically.

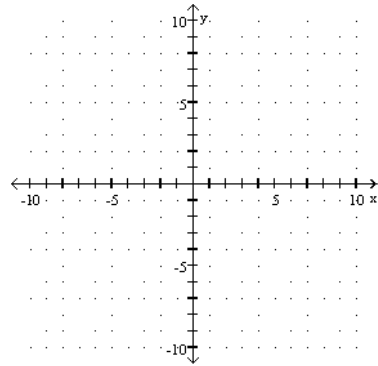
- 18) $x = y - 2$
 $4x = 3y$
 Solution to the system is _____



Answer: $(6, 8)$

Solve the system of equations graphically.

- 19) $3x + 2y = 27$
 $-2x + 3y = -5$
 Solution to the system is _____



Answer: $(7, 3)$

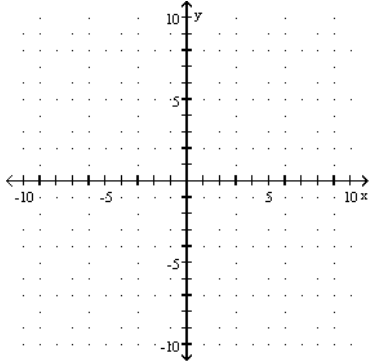
Solve the problem.

- 20) Ron and Kathy are ticket-sellers at their class play. Ron is selling student tickets for \$2.00 each, and Kathy selling adult tickets for \$4.50 each. If their total income for 22 tickets was \$69.00, how many tickets did Ron sell?

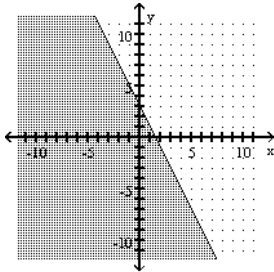
Answer: 12 tickets

Graph the linear inequality in two variables.

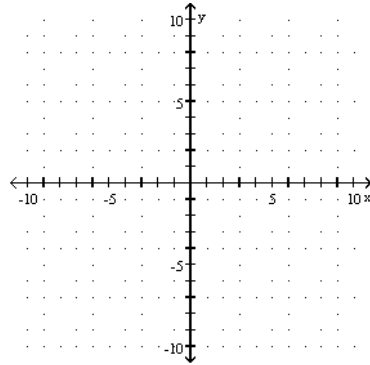
21) $2x + y \leq 3$



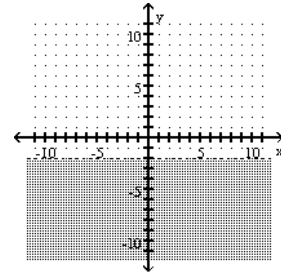
Answer:



22) $y < -2$



Answer:



Solve the problem using the elimination method.

23) Two angles are supplementary, and one is 40° more than three times the other. Find the smaller angle. (Supplementary angles add to 180°)

Answer: 35°

Solve the problem.

24) How many liters (L) of a 40% alcohol solution must be mixed with 10 L of a 60% solution to get a 50% solution?

Answer: 10 L