

Unit 2 HW 21

Name Key

Date _____ Period _____

Simplify

1. $-2(-6)^2 + 40$

-32

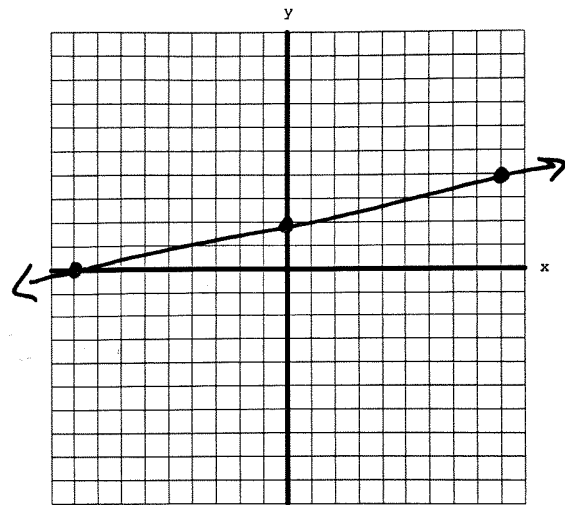
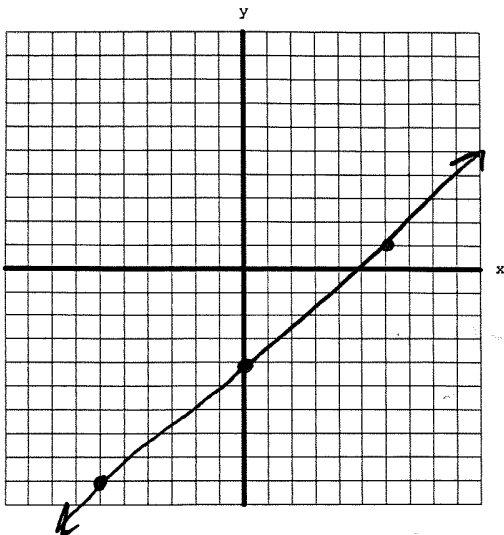
2. $-10(3)^2 + 23(7) - 36$

35

Graph each linear equation.

3. $y = \frac{5}{6}x - 4$

4. $2x - 9y = -18$

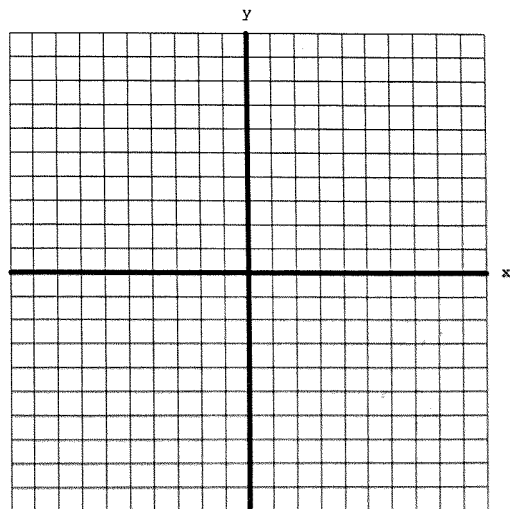


5. Solve the system of equations by graphing. Then confirm your answer by solving the system algebraically (using substitution or elimination).

$$\begin{cases} y = 6x + 9 \\ 5x - 3y = 12 \end{cases}$$

Be sure to do the problem twice!

$(-3, -9)$



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6. Mr. Belby, Mr. Sacco and Mrs. Pischke were having a discussion about whose pet hamster was the fastest. Mr. Belby's pet store hamster can run 0.5 mph. Mr. Sacco's pure-bread hamster can run 43 ft/min. Mrs. Pischke's runt of the litter hamster can run 0.25 m/s. Which hamster is the fastest? (Show work using dimension analysis)

Pischke's hamster wins!
 Show work!
 Know why!

7. Find the slope of the following lines. If parallel lines have the SAME slope and perpendicular lines have slopes that are OPPOSITE AND RECIPROCAL, are these lines parallel, perpendicular or neither?

$$\begin{cases} 12x - 2y = -18 \\ 5x - 3y = 12 \end{cases}$$

Neither
 know how/why!

8. a. Write an equation for a line that would be parallel to $y = -\frac{7}{3}x - 3$. (slopes are same)

$$y = -\frac{7}{3}x + 5$$

- b. Write an equation for a line that would be perpendicular to $y = -\frac{7}{3}x - 3$. (slopes are opposite and reciprocal)

$$y = \frac{3}{7}x + 2$$

Simplify the expressions. Answers should contain only positive exponents.

9. $(2x^{-13})(-5x^4)$

$$\frac{-10}{x^9}$$

10. $(3a^4b^2)^3(-4ab)$

$$-108a^{13}b^7$$

11. $\frac{4c^{-5}d^2}{12c^3d^{-2}}$

$$\frac{d^4}{3c^8}$$