

Note: Not Linear if: ① x^2 ② $\frac{1}{x}$ ③ xy ④ \sqrt{x}

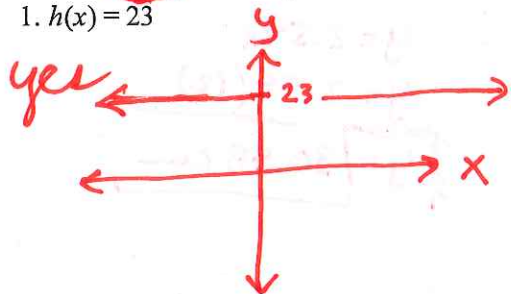
Name: KEY Class: _____ Date: _____

Copy of 2-2: Linear Relations and Functions (Practice)

State whether each function is a linear function.

Write yes or no. Explain.

1. $h(x) = 23$



Write each equation in standard form. Identify A, B, and C.

5. $y = 7x - 5$

$-7x + y = -5$

$7x - y = 5$

$A=7 \quad B=-1 \quad C=5$

$Ax + By = C$

Note: A, B, & C must be integers, have no common factors other than 1, and A is non-negative.

2. $y = \frac{2}{3}x$

6. $y = \frac{3}{8}x + 5$

3. $y = \frac{5}{x}$

No. Variable in denominator.

7. $3y - 5 = 0$

$3y = 5$

$A=0 \quad B=3 \quad C=5$

4. $9 - 5xy = 2$

8. $x = -\frac{2}{7}y + \frac{3}{4}$

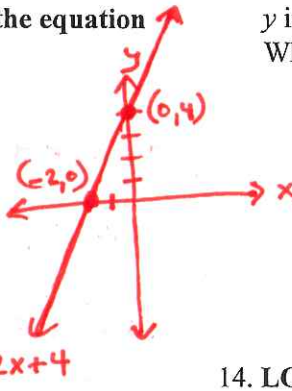
Copy of 2-2: Linear Relations and Functions (Practice)

① Find the x-intercept and the y-intercept of the graph of each equation. Then graph the equation using the intercepts.

9. $y = 2x + 4$

$0 = 2x + 4$
 $-4 = 2x$
 $-2 = x$

x	y
0	4
-2	0

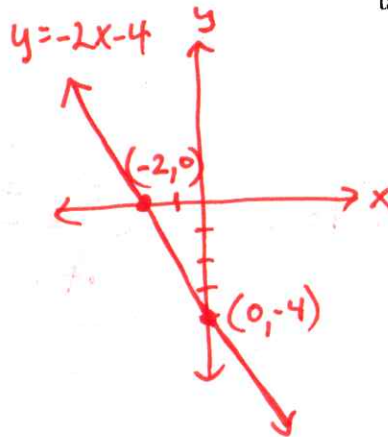


10. $2x + 7y = 14$

11. $y = -2x - 4$

$0 = -2x - 4$
 $4 = -2x$
 $-2 = x$

x	y
0	-4
-2	0



12. $6x + 2y = 6$

13. **MEASURE** The equation $y = 2.54x$ gives the length y in centimeters corresponding to a length x in inches. What is the length in centimeters of a 1-foot ruler?

$y = 2.54x$
 $y = 2.54(12)$
 $y = 30.48 \text{ cm}$

14. **LONG DISTANCE** For Meg's long-distance calling plan, the monthly cost C in dollars is given by the linear function $C(t) = 6 + 0.05t$, where t is the number of minutes talked.

- What is the total cost of talking 8 hours? of talking 20 hours?
- What is the effective cost per minute (the total cost divided by the number of minutes talked) of talking 8 hours? of talking 20 hours?