Algebra 1
Practice problems

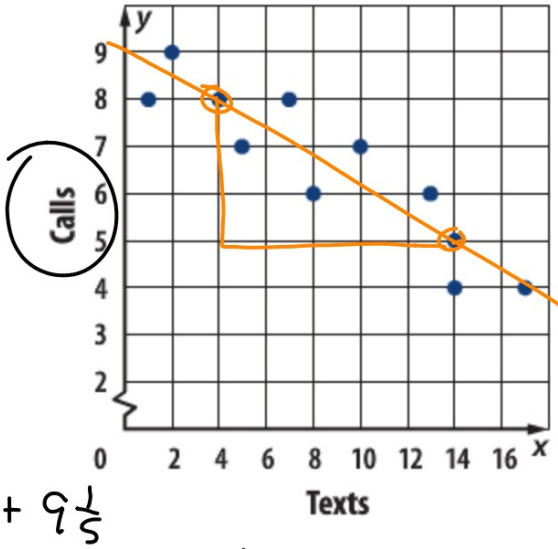
Test Ch. 4 Tues.

There will be graphing calculator question(s) on the test

whiteboards

Example 6

The scatter plot displays the number of texts and the number of calls made daily. Write an equation for the line of fit.



$(4, 8)$ $(14, 5)$

$m = \frac{-3}{10}$

$y = \frac{-3}{10}x + B$

$5 = -\frac{3}{10} \cdot 14 + B$

$5 = -4\frac{1}{5} + B$

$+4\frac{1}{5} \quad +4\frac{1}{5}$

$9\frac{1}{5} = B$

$y = \frac{-3}{10}x + 9\frac{1}{5}$

$Calls = -\frac{3}{10} \cdot text + 9\frac{1}{5}$

$Calls = -\frac{3}{10} \cdot 20 + 9\frac{1}{5}$

$Calls = 3.2$

Old school

graphing calculator

Example 7

ATTENDANCE The table shows the annual attendance at an amusement park. Write an equation of the regression line for the data.

Years Since 2004	0	1	2	3	4	5	6
Attendance (thousands)	75	80	72	68	65	60	53

p. 277 PT

2-20 all

Example 8

Find the inverse of the relation.

$\{(5, -3), (11, 2), (-6, 12), (4, -2)\}$

$(-3, 5)$ $(2, 11)$ $(12, -6)$ $(-2, 4)$

Example 9

Find the inverse of $f(x) = \frac{1}{4}x + 9$.

$y = \frac{1}{4}x + 9$

$x = \frac{1}{4}y + 9$

$-9 \qquad -9$

$x - 9 = \frac{1}{4}y$

$4 \cdot \frac{1}{4}y = 4 \cdot x - 9$

$y = 4x - 36$

$f^{-1}(x) = 4x - 36$

Example 1

$y = mx + B$

Write an equation of a line in slope-intercept form with slope −5 and *y*-intercept −3. Then graph the equation.

$y = -5x - 3$

Example 2

x y

Write an equation of the line that passes through (3, 2) with a slope of 5.

m

$y = mx + B$

$2 = 5 \cdot 3 + B$

$2 = 15 + B$

$-15 \quad -15$

$-13 = B$

$y = 5x + -13$

Write an equation of the line that passes through the given points.

23. (2, −1), (5, 2)

24. (−4, 3), (1, 13)

$m = \frac{3}{3} = 1$

$y = 1x + -3$

$y = 1 \cdot x + B$

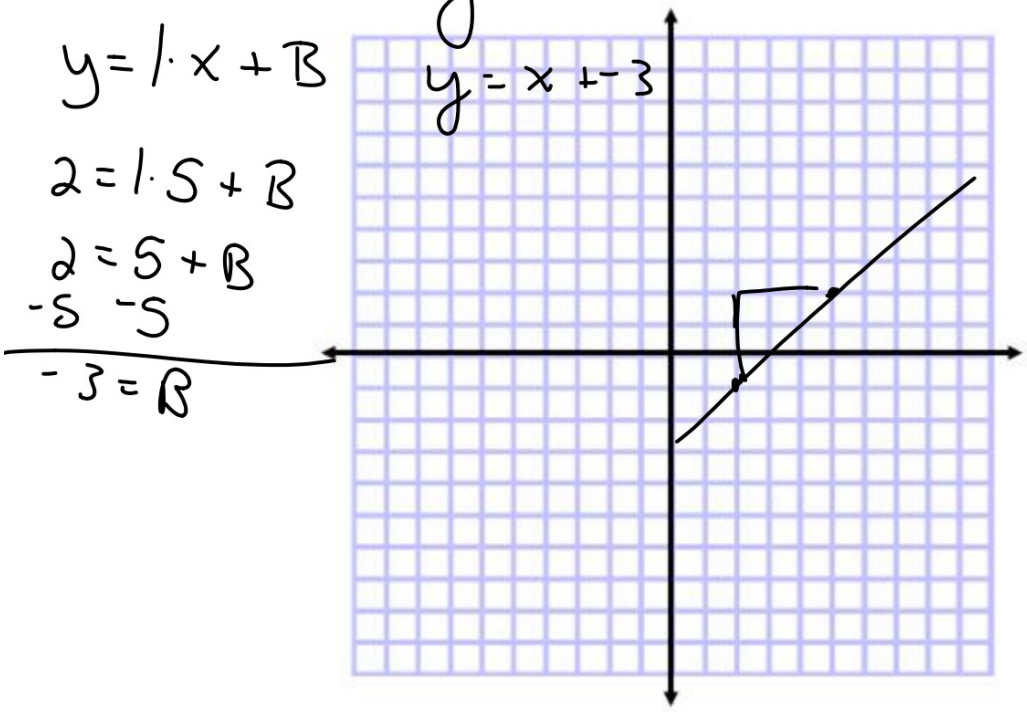
$y = x + -3$

$2 = 1 \cdot 5 + B$

$2 = 5 + B$

$-5 \quad -5$

$-3 = B$



14. Write an equation in point-slope form for the line that passes through the point (8, 3), $m = -2$. (Lesson 4-3)

$y - y_1 = m(x - x_1)$

$y - 3 = -2(x - 8)$

16. Write $y + 4 = -7(x - 3)$ in slope-intercept form.
(Lesson 4-3)

$y + 4 = -7x + 21$
$-4 \qquad\quad -4$

$y = -7x + 17$

x y ↓

23. $(0, -3)$; $y = -2x + 4$

parallel

$m = -2$

$y = -2x + B$

$-3 = -2 \cdot 0 + B$

$-3 = 0 + B$

$-3 = B$

$y = -2x + -3$

24. $(-4, -5)$; $-4x + 5y = -6$ perpendicular

x y

$m = -\frac{5}{4}$

$-4x + 5y = -6$

$+4x \quad +4x$

$5y = 4x - 6$

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

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

$y = -\frac{5}{4}x + B$

$-5 = -\frac{5}{4} \cdot -4 + B$

$-5 = 5 + B$

$-5 \quad -5$

$-10 = B$

$y = -\frac{5}{4}x + -10$

$y = -\frac{5}{4}x - 10$

$+\frac{5}{4}x \qquad +\frac{5}{4}x$

$4 \cdot \frac{5}{4}x + 4 \cdot y = -10$

$5x + 4y = -40$

$Ax + By = C$

$f(x) =$