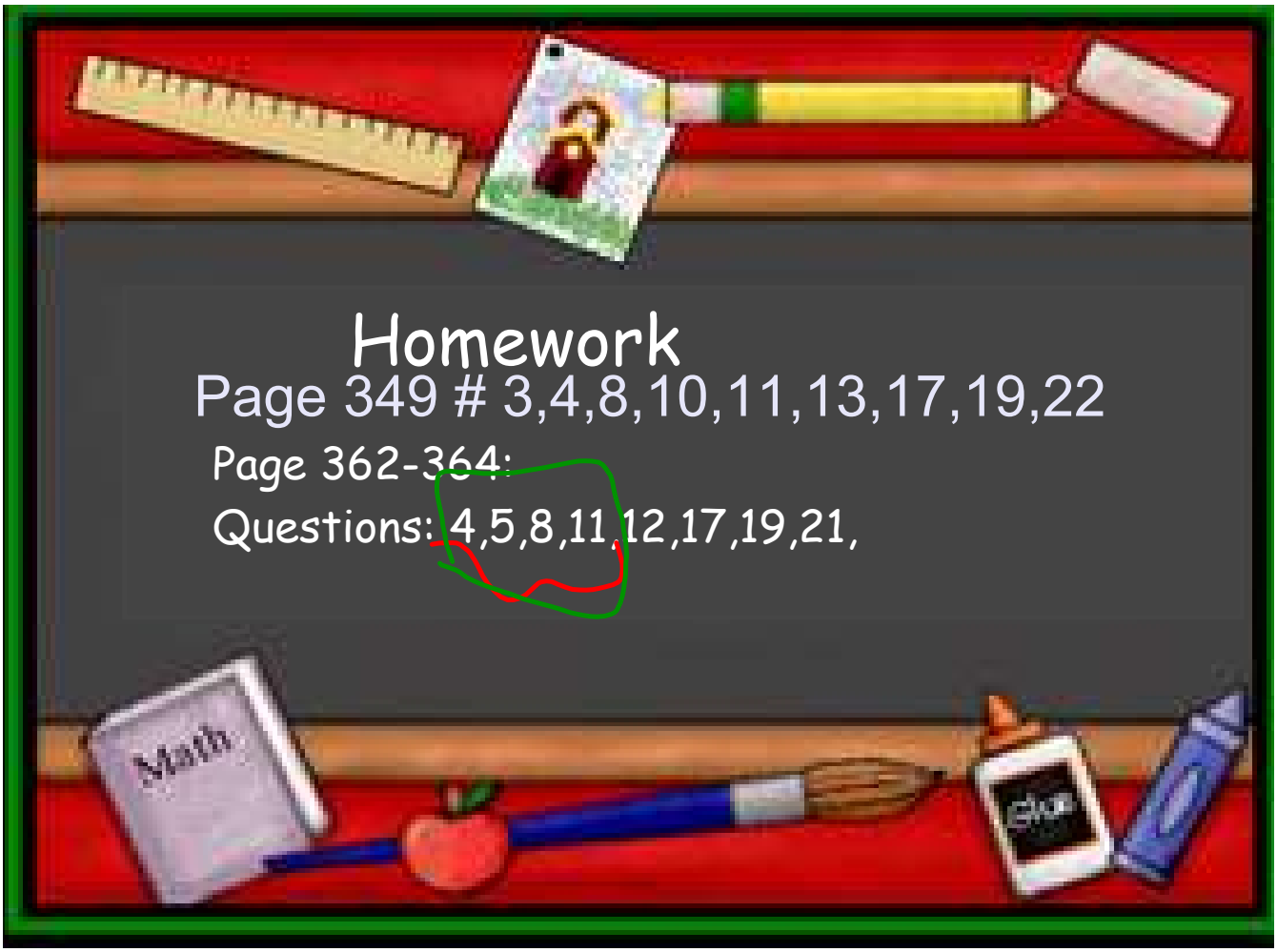
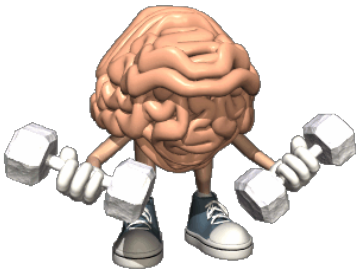
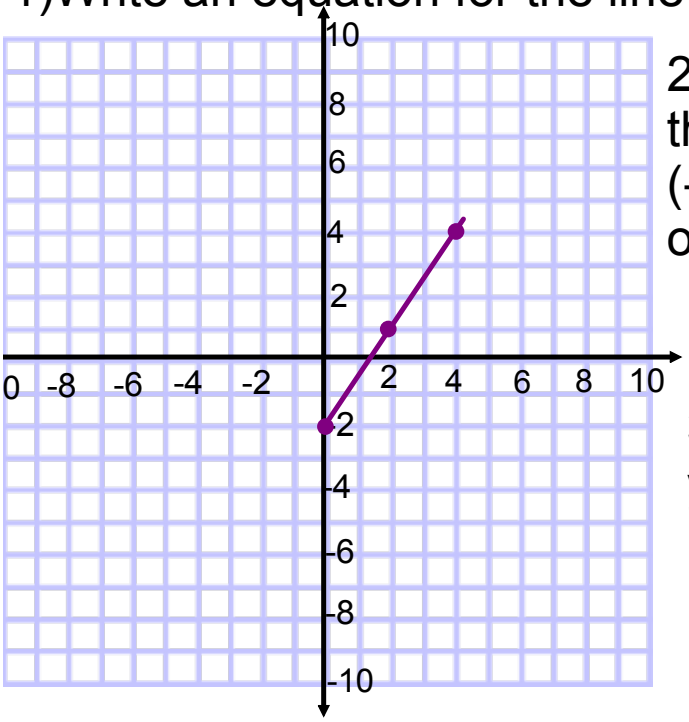

Homework
Page 349 # 3,4,8,10,11,13,17,19,22
Page 362-364:
Questions: 4,5,8,11,12,17,19,21,
Math

Warm Up



1)Write an equation for the line :

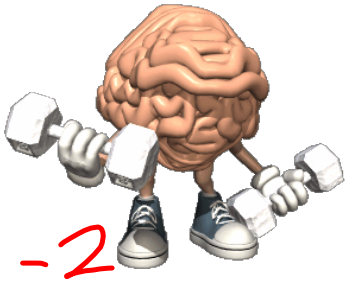


2)Write an equation of a line that passes through (-7, 4) and (-5, 10) and has a y intercept of -5.

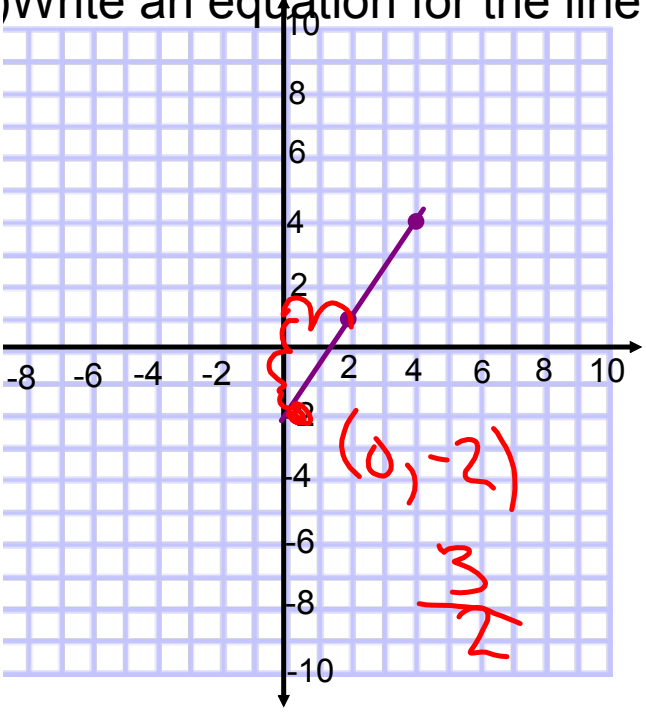
3) Given the equations $y = \frac{2}{5}x + 6$, state the

i) Slope
ii) y-intercept
iii) x- intercept

Warm Up



)Write an equation for the line :



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

$y = mx + b$

m = slope $= \frac{3}{2}$

b = y-int $= -2$

$(0, -2)$

$\frac{3}{2}$

$m = \frac{\text{rise}}{\text{run}} = \frac{y_2 - y_1}{x_2 - x_1}$

2)Write an equation of a line that passes through (-7, 4) and (-5, 10) and has a y intercept of -5.

$m = \frac{y_2 - y_1}{x_2 - x_1}$ $\frac{10 - 4}{-5 - (-7)} = \frac{6}{2}$

$m = 3$

$b = -5$

$y = 3x - 5$

3) Given the equations $y = \frac{2}{5}x + 6$, state the

i) Slope $= \frac{2}{5}$

ii) y-intercept $+6$

iii) x- intercept

$0 = \frac{2}{5}x + 6$

$\times 5 \quad \times 5$

$-6 = \frac{2}{5}x$

$-30 = 2x$

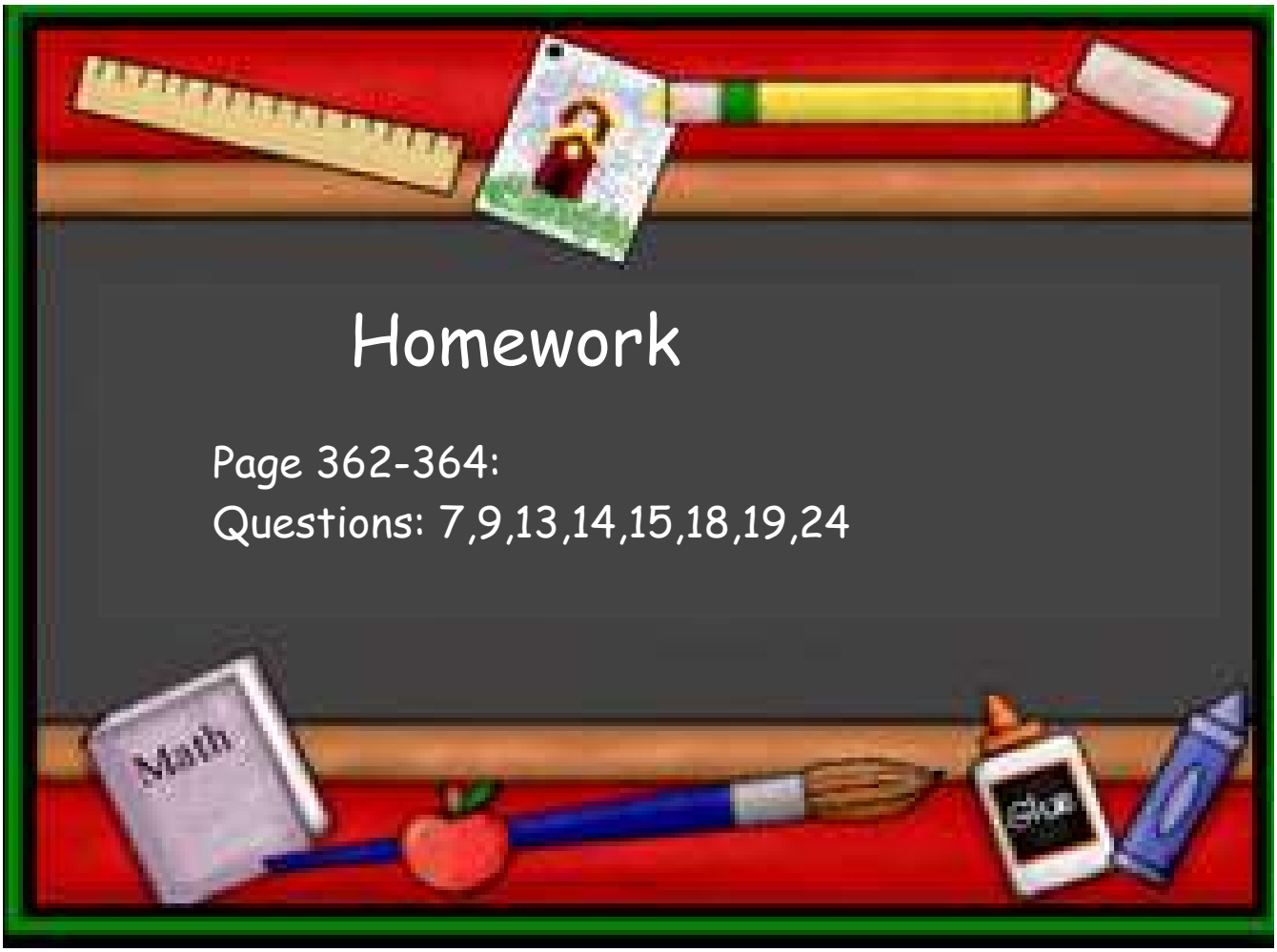
$\frac{-30}{2} = \frac{2x}{2}$

$-15 = x \quad (-15, 0)$

$(-15, 0)$

$$2y = -3x - 10$$

$$3y + 4 = 2x + 5$$


Homework
Page 362-364:
Questions: 7,9,13,14,15,18,19,24
Math
Glue

$$y = mx + b$$

You need a

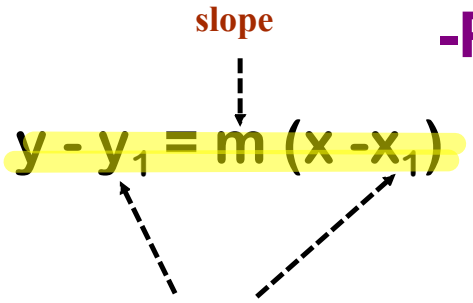
Slope (m)

y-intercept (b)

Point - Slope Form

You can also find the equation of a line if you are given a point and the slope of the line. In order to do this you use the formula:

You need a
-Point & a Slope



The x and y values from the given point

This equation can be rearranged to $y=mx+b$ (slope intercept)

Example 1:
Find the equation of a line that passes through (-3,4) and has the same slope as y = 3x + 2.

Write what you know:

$m = 3 \qquad (-3,4)$

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

$y - 4 = 3(x - (-3))$

$y - 4 = 3(x + 3)$ Point Slope Form

$y - 4 = 3x + 9$

$y - 4 + 4 = 3x + 9 + 4$

$y = 3x + 13$ Slope Intercept Form

Example 2:
Find the equation of a line that passes through the points (-4,3) and a has a slope perpendicular to y= 2x-7

$m = \frac{2}{1}$ $\frac{1}{}$ $-\frac{1}{2}$

Write what you know:

$m = -\frac{1}{2}$ $(-4, 3)$ x_1, y_1

What do we need:

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

have need have

$y - 3 = -\frac{1}{2}(x - (-4))$

$y - 3 = -\frac{1}{2}(x + 4)$

$= -\frac{1}{2} x \cdot \left(-\frac{1}{2} x \frac{4}{1}\right)$

$\frac{-4}{2}$

$= -2$

$+3$

$y - 3 = -\frac{1}{2}x - 2$

$y = -\frac{1}{2}x - 2 + 3$

$y = -\frac{1}{2}x + 1$

$$y - 3 = -\frac{1}{2}(x + 4)$$

$\times 2 \quad \times 2 \quad \times 2$

$$2y - 6 = -1(x + 4)$$

$$2y - 6 = -1x - 4$$

$$2y = -1x - 4 + 6$$

$$\frac{2y}{2} = \frac{-1x}{2} + \frac{2}{2}$$

$$y = -\frac{1}{2}x + 1$$

Example 2:
Find the equation of a line that passes through the points (0,5) and (-2,1)

Write what you know:

$m = 2$

Point A (0,5) x_1, y_1

Point B (-2,1) x_2, y_2

$m = \frac{y_2 - y_1}{x_2 - x_1}$

What do we need:

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

have need have

$\frac{1-5}{-2-0} = \frac{-4}{-2} = 2$

What if you use the other point????

Example 2:
Find the equation of a line that passes through the points (0,5) and (-2,1)

Write what you know:

Fill in what you know:

(0,5) m= 2

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

$$y - 5 = 2\,(x - (0))$$

$$y - 5 = 2x$$

$$y - 5 + 5 = 2x + 5$$

$$y = 2x + 5$$

We need slope:

$$m=\frac{y_2-y_1}{x_2-x_1}$$

$$m=\frac{(1-5)}{((-2)-0)}$$

$$m=\frac{(-4)}{(-2)}$$

$$m=2$$

Fill in what you know:

(-2,1) m= 2

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

$$y-1=2(x-(-2))$$

$$y-1=2x+4$$

$$y-1+1=2x+4+1$$

$$y=2x+5$$

Example 3:
Find the equation of a line that passes through the points (8,-3) and (6,1), and has a y intercept of (0,-7)

$m = \frac{y_2 - y_1}{x_2 - x_1}$ $\frac{1 - (-3)}{6 - 8} = \frac{4}{-2}$

$m = -2$

$y = -2x - 7$

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

Homework

Pg. 362-364 # 12,17,19,21

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4,5,6, 9,11,12

Attachments

Point slope form.docx