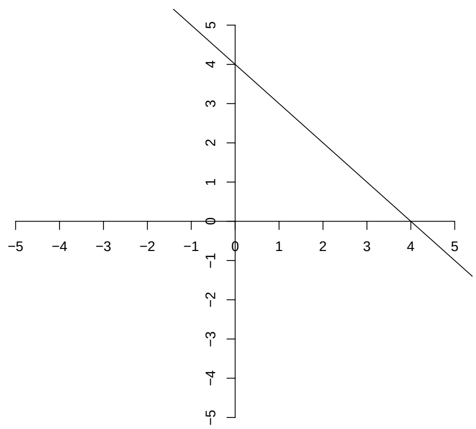
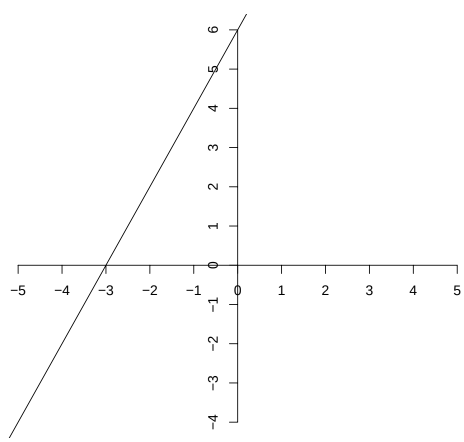
Exercise 2 **Name** ______________________

Graph the following functions:

1. $y = 4 - x$



2. $2y - 5 = 2x + y + 1$



Find the slope of the line through these points:

3. (2,1) and (7,6): $\frac{\Delta y}{\Delta x} = \frac{6-1}{7-2} = \frac{5}{5} = 1$

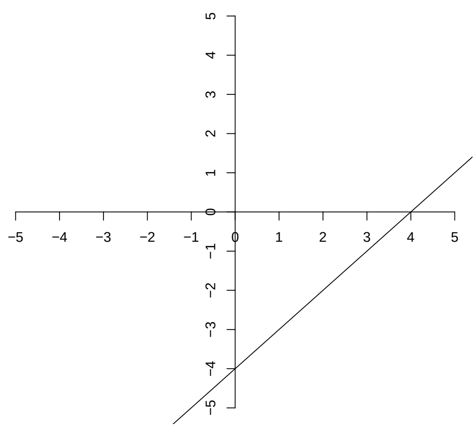
4. (4,0) and (3,2): $\frac{\Delta y}{\Delta x} = \frac{2-0}{3-4} = \frac{2}{-1} = -2$

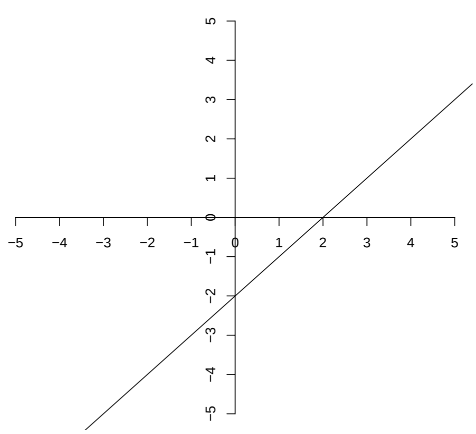
Exercise 2 Name ______________________

Match these equations with their graphs:

5. $y = x - 2$: The second graph below

6. $y = x - 4$: The first graph below





Exercise 2 Name ____________________

Solve:

7. 40% of 60 $= .4 \times 60 = 24$

8. $8 = 10\%$ of what number?
$.10x = 8$
$x = \frac{8}{.10} = 80$

9. Convert 125% to a proportion: $\frac{125}{100} = 1.25$

Solve this problem:

10. We identified the following to be the equation relating dose to expected weight gain in laboratory animals in an experiment:

$$y = 1.13 - 0.41x + 0.17x^2$$

where y = weight gain and x = dose.

(a) Assuming that the same relationship was true at higher doses, what weight gain would you expect for an animal given a dose of 9?

$$y = 1.13 - .45(9) + 17(9^2) = 1.13 - 3.69 + 13.77 = 11.21$$

(b) Would it be appropriate to estimate the weight gain for an animal given a dose of 20? Why or why not?

Probably not, because that dose was much higher than any observed in our experiment. We do not know that the relationship is still quadratic at higher doses.