

Instructions: Complete these problems for homework due on the date above. These should look very similar to those that were covered during our 6th class meeting – material from §4.4-4.6.

1. Use the following tables of values to solve the linear equations in a), b) & c).

$y = 2x - 11$		$y = -\frac{3}{2}x + 3$	
x	y	x	y
-2	6	4	-3
0	3	5	-1
2	0	6	1
4	-3	7	3
6	-6	8	5

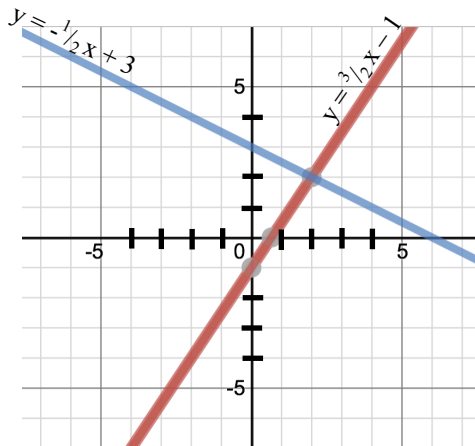
a) $-\frac{3}{2}x + 3 = 5$

b) $2x - 11 = 3$

c) $-\frac{3}{2}x + 3 = 2x - 11$

2. Translate the following into an algebraic equation and solve.
Twice the difference of 9 and a number is -92.

3. Use the following graph to solve the linear equations in a), b) & c).



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

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

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

4. Solve each of the following equations. If an equation is an identity or contradiction make sure to give the correct solution! Every problem needs to have the variable completely isolated for full credit.

a) $2(x - 3) + 5 = 3(x - 2) + 5$

b) $\frac{1}{2}(2x + 5) = x - \frac{1}{2}$

4. **con'd**

c) $3x + 4 = 2(x + 2) + x$

5. Clear the following equation of fractions. Do not solve. Use ONLY the least common denominator. If you build higher terms you are doing wasting time and I will not award full credit for that type of work on the exam.

$$\frac{2}{5}(\frac{1}{5}x + \frac{3}{4}) = 2x - \frac{7}{10}$$

6. Tim and Andrea decide to start a coffee shop tutoring business. They rent the back room of a coffee shop for \$500 per month (that's money going out) and then charge \$45 per hour to tutor students. The net amount of money they make, n , is determined by the number of hours they tutor students, t .

a) Write a linear model to describe the value, n , that Time and Andrea make tutoring for t hours.

b) Estimate the net money they will make tutoring for 20 hours. Show your work.

c) Predict when they will make \$1300.

7. Solve or simplify as appropriate.

a) $\frac{8}{5}x - \frac{2}{3}x = 23 - \frac{1}{15}x$

b) $\frac{2}{3}x - \frac{1}{3}x + \frac{4}{9} = \frac{1}{9}$

8. Solve each equation below for the specified variable. Make sure that the answer contains individual terms, not quotients that contain sums/differences. Give 2 statements for each.

a) Solve $A = \frac{a + b + c}{3}$ for **c**

b) Solve $r = 2h - \frac{1}{4}f$ for **f**

9. The perimeter of a rectangle is 88 inches. If the width must be 18 inches, what is the length? Write all relevant information, make a plan, an algebra equation and then solve for the length.

10. Find the value (in cents), T, for each of the following (show your work):

a) 3 quarters

b) 5 quarters

c) q quarters

11. Find the simple annual interest (sai) earned in 1.5 years on \$1000 at a (sai) rate of 2%.