Kerry Ojakian's MTH 28.5 Class
Class Assignment #5

Evaluate the following expressions

1. $x + 3$ if $x = 5$

2. $x + 3$ if $x = 10$

3. $a + 6b$ if $a = 4$, $b = 8$

4. $a + 6b$ if $a = -7$, $b = -2$

5. $4xy$ if $x = 4$, $y = -3$

6. $x^2 - y^2 + 3$ if $x = 2$, $y = 3$

7. $x^2 - y^2 + 3$ if $x = -2$, $y = 1$

8. $x^2 - y^2 + 3$ if $x = -1$, $y = -3$

Evaluate the following expressions

9. $x - \dfrac{1}{2}$ if $x = \dfrac{1}{2}$

10. $x - \dfrac{1}{2}$ if $x = 0.5$

11. $x - \dfrac{1}{2}$ if $x = -\dfrac{1}{2}$

12. $2a - \dfrac{b}{6}$ if $a = \dfrac{1}{12}$, $b = 5$

13. $2a - \dfrac{b}{6}$ if $a = \dfrac{5}{16}$, $b = -7$

14. x^2 if $x = \dfrac{1}{4}$

15. x^2 if $x = 0.25$

16. x^2 if $x = -\dfrac{1}{4}$

17. $x^2 + y^2$ if $x = \dfrac{5}{3}$, $y = 0$

18. $x^2 - y^2 - \dfrac{5}{6}$ if $x = -\dfrac{1}{3}$, $y = \dfrac{1}{2}$

19. The area of a triangle with base B and height H is: $\frac{1}{2} \cdot B \cdot H$. Find the areas of triangles with the following dimensions:

   (a) Triangle with base 4 and height 7.

   (b) Triangle of height 10, with a base of 3.

   (c) Triangle whose base is $\frac{7}{4}$, with a height of $\frac{3}{7}$

20. Suppose a rectangle has a length L and width W. Its area is $L \cdot W$. Its perimeter is: $2L + 2W$.

   (a) Find the area of a rectangle with width 5 and length 7.

   (b) Find the perimeter of a rectangle with width 5 and length 7.

   (c) What is the area of a square Manhattan block if the length of one block is 50 feet? If you walk around the whole square block, what distance did you walk?

   (d) What is the area of a rectangular playground if its length is 97 meters and its width is 100 meters.

   (e) What is the perimeter of a rectangle if its length is $\frac{7}{24}$ meters and its width is $\frac{3}{36}$.

   (f) Find the rectangle whose area is equal to its perimeter.

21. If the temperature in Celsius is C, then the Fahrenheit temperature is $C \cdot \frac{9}{5} + 32$.

   If the temperature in Fahrenheit is F, then the Celsius temperature is $\frac{5}{9} \cdot (F - 32)$.

   (a) In Portugal you are told the temperature is 30 degrees Celsius. What is the temperature in Fahrenheit?

   (b) In NYC you hear it is 41 degrees Fahrenheit. So they understand you in Portugal, convert this to Celsius.

   (c) Zero degrees Celsius is when water freezes. What temperature does water freeze in Fahrenheit?

   (d) 100 degrees Fahrenheit is hot! What is that in Celsius?