Assignment #5-3   Secondary 3 Honors

Precalculus Book: Pg. 817 – 818   1 – 8, 9, 11, 14, 16, 17, 19, 23, 35

Additional Problems: Use your calculator to find the following limits.

1. $\lim\limits_{x \to \infty} \dfrac{|x-5|}{2x+1}$ 2. $\lim\limits_{x \to -\infty} \dfrac{|x-5|}{2x+1}$ 3. $\lim\limits_{x \to \infty} \dfrac{\sqrt{4x^2-2x}}{-3x+7}$

ACT Review:

1. As part of a lesson on motion, students observed a cart rolling at a constant rate along a straight line. As shown in the chart below, they recorded the distance, y feet, of the cart from a reference point at 1-second intervals from $t = 0$ seconds to $t = 5$ seconds.

t	0	1	2	3	4	5
y	14	19	24	29	34	39

Which of the following equations represents this data?

F. $y = \quad t + 14$
G. $y = \quad 5t + \ 9$
H. $y = \quad 5t + 14$
J. $y = 14t + \ 5$
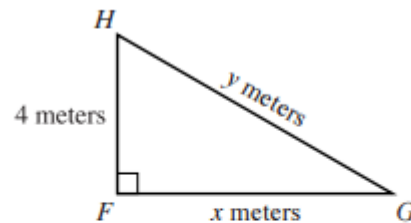K. $y = 19t$

2. The inequality $6(x + 2) > 7(x - 5)$ is equivalent to which of the following inequalities?

A. $x < -23$
B. $x < \quad 7$
C. $x < \quad 17$
D. $x < \quad 37$
E. $x < \quad 47$

3.

The sides of a square are 3 cm long. One vertex of the square is at (2,0) on a square coordinate grid marked in centimeter units. Which of the following points could also be a vertex of the square?

F.   (–4, 0)
G.   (0, 1)
H.   (1,–1)
J.   (4, 1)
K.   (5, 0)

4.

For $\triangle FGH$, shown below, which of the following is an expression for y in terms of x ?

A. $x + 4$

B. $\sqrt{x^2 + 4}$

C. $\sqrt{x^2 + 8}$

D. $\sqrt{x^2 - 16}$

E. $\sqrt{x^2 + 16}$

5. A bag contains 12 red marbles, 5 yellow marbles, and 15 green marbles. How many additional red marbles must be added to the 32 marbles already in the bag so that the probability of randomly drawing a red marble is $\dfrac{3}{5}$?

F.   13
G.   18
H.   28
J.   32
K.   40