College Level Math (Math& 141, 107, 170, 147)
Entrance Exam Review - Sample

Use this sample to help determine your placement. The Entrance Exam Review is online at: http://www.wamap.org/diag (click on GRCC Entrance Exam Review). Password is: **grccee**. Entrance Exams are administered in the GRCC Assessment Center (ZWC building). The exams are online utilizing the WAMAP system.

1) Solve: $2x+2>7x-4$

2) Multiply and simplify completely: $(4x-3y)^2$

3) Solve the equation: $\sqrt{2x-5}-6=-2$

4) Solve the equation $\frac{1}{x+2}-\frac{1}{x+3}=\frac{1}{2}$

5) Solve the equation for the given variable. Round your answer to the nearest tenth.
$13-5(y+7)=6+2(1.8y+5)$

6) Solve the following for x in terms of y: $y=\frac{x}{3-x}$ Assume $x\neq 3$

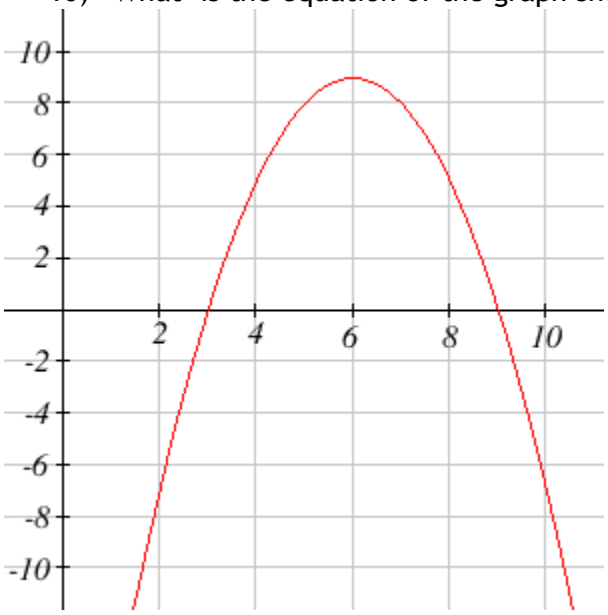
7) Solve the rational equation: $\frac{1}{x+3}-\frac{4}{x-7}=-\frac{9}{x+3}$

8) NASA launches a rocket at t = 0 seconds. Its height, in meters above sea-level, as a function of time is given by $h(t)=-4.9t^2+307t+374$.

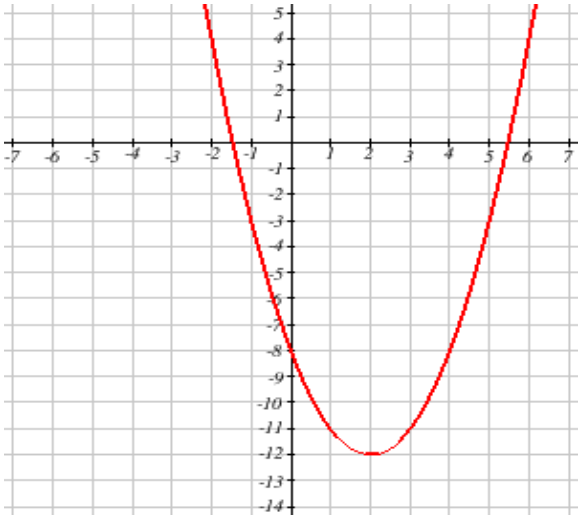
   What is the maximum height (above sea level) that the rocket attains?

9) Find all solutions of the equation $x^2+2x+6=0$ and express them in the form a+bi:

10) What is the equation of the graph shown below?



11) The graph of $g(x) = x^2 - 4x - 8$ is shown below. Use the graph to solve the equation $g(x) = -8$.



12) Simplify the following expression completely.

$$\frac{4x^2 - 7x + 3}{4x^2 + x - 3}$$

13) Divide and simplify: $\dfrac{x^2 - 2x - 48}{x^2 - 64} \div \dfrac{x^2 + 8x + 12}{x^2 - 4}$

14) Simplify the expression completely: $\left(\frac{18z^{12}}{6z^{4}}\right)^{-2}$

15) Write an equation for a line perpendicular to $y = 4x - 3$ and passing through the point (-4,6)

16) Find the distance between the points (-3,4) and (1,2)

17) Solve the following system of equations:

$$\begin{cases} x - 5y = 49 \\ -3x + 3y = -27 \end{cases}$$

18) Based on the table below, evaluate f(6).

x	0	1	2	3	4	5	6	7	8	9
$f(x)$	6	14	44	83	87	92	84	58	61	43

19) Add and simplify: $\frac{a}{9b} + \frac{c}{5b}$ Assume $b \neq 0$

20) Completely simplify the radical expression:

$\sqrt{3^5 x^8 y^{17}}$