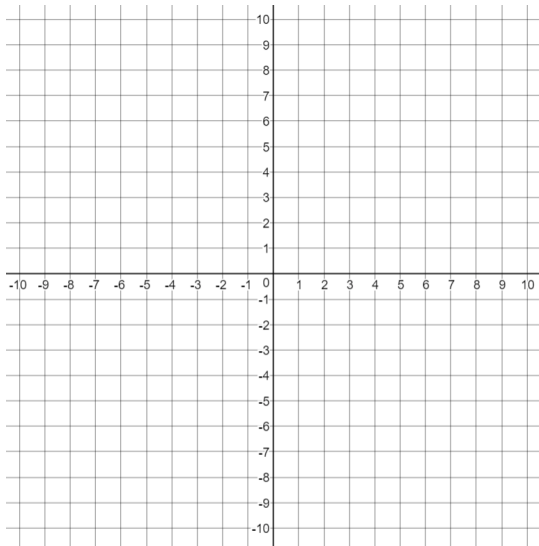1) Complete the square and graph the following.

$y = -2x^2 + 4x + 6$

Vertex _____

Eqn of axis of symmetry _____

y-intercept _____

x-intercept _____

Domain _____

Range _____

Max. or Min. value _____
(circle one)

2) Solve the following: $12x^2 + 24x = -9$

a) List the four methods you could use.   b) Use the discriminant to determine

the nature of the roots

c) Solve using two of these methods

3) Simplify the following

a) $\left(2\sqrt{3}+1\right)^2$

b) $\dfrac{6\sqrt{12}}{12\sqrt{6x}}$

c) $\dfrac{4}{2-\sqrt{8}}$

4) Solve graphically

$2-\sqrt{x} = (x-2)^2 - 4$

solution check

d) Solve algebraically

$-6 + 2\sqrt{5x+81} = 2x$