5. [7 points] The parts of this problem are unrelated.

a. [4 points] The velocity v, in feet per second (ft/s), of water the leaking from a tank is proportional to the square root of the depth d, in feet (ft), of the water in the tank at that moment. That is, for a positive constant k,

$$v = k\sqrt{d}.$$

If the velocity of the water is 4 ft/s when the depth is $\frac{1}{4}$ ft, what was the velocity when the depth was 9 ft? *Show your work.*

Answer: _____ ft/s

b. [3 points] On the lines next to each formula, write the letter corresponding to its graph.

i. $(x+2)^2(x-3)$ _____

ii. $-(x+2)^2(x-3)$ _____

iii. $-(x+2)(x-3)^2$ _____

iv. $(x+2)(x-3)^2$ _____