

Quiz 3

Show *all* your work. No credit is given without reasonable supporting work. There are *two* sides to this quiz.

1. [3] TRUE/FALSE: Circle T in each of the following cases if the statement is *always* true. Otherwise, circle F.

T F The vertex of the parabola defined by $2(x + 1)^2 - 5 = y$ is a maximum.

T F The line $\frac{2}{3}x + 1 = y$ is perpendicular to the line $2x - 3y = 7$.

T F The graph of $h(x) = (x + 2)^2$ is the graph of $g(x) = x^2$ shifted left 2 units.

scratch paper

2. Consider the function $f(x) = -x^2 + 3x + \frac{1}{4}$ whose graph is provided below.

(a) [1] Draw the line connecting points $(-1, f(-1))$ and $(\frac{3}{2}, f(\frac{3}{2}))$.

(b) (line wks #7) [2] Find the equation of the line you drew in part (a).

(c) (WebHW4 #9) [1] Find the average rate of change of f between $x = -1$ and $x = \frac{3}{2}$,

(d) (§2.5 #14) [3] Complete the square to write f in vertex/standard form.

