MATH 120A

Quiz 13

Name: ANSWER KEY Score: _____

Find the equation of the line through (-3,4) that is parallel to the line 3x-2y+5=0.

To find the equation of a line we require a point (given as (-3,4)) and a slope. Since the line sought is parallel to the line $3x-2y+5=0$, it suffices to find the slope of this latter line.

$$3x-2y+5=0 \Rightarrow -2y=-3x-5 \Rightarrow y=\underbrace{\left(\tfrac{3}{2}\right)}_{\text{slope}}x+\tfrac{5}{2}$$

By the point-slope form, the equation of the line sought is

$$\boxed{y-4=\tfrac{3}{2}(x+3)}$$

or $3x-2y+17=0$

or $y=\tfrac{3}{2}x+8.5$