

## Math C

## 13.2 Inverses part 1 - KEY

1.  $f^{-1}(x) = \frac{x-3}{2} = \frac{x}{2} - \frac{3}{2} = \frac{1}{2}x - \frac{3}{2}$ ; YES

2.  $f^{-1}(x) = 4x - 5$ ; YES

3.  $f^{-1}(x) = \pm\sqrt{x}$ ; NO

4.  $f^{-1}(x) = \pm\sqrt{\frac{x-5}{2}} = \pm\sqrt{\frac{x}{2} - \frac{5}{2}} = \pm\sqrt{\frac{1}{2}x - \frac{5}{2}}$ ; NO

5.  $f^{-1}(x) = x^2 - 5$ ,  $x \geq 0$ ; YES

6.  $f^{-1}(x) = \frac{2-x^2}{3} = \frac{2}{3} - \frac{x^2}{3} = \frac{2}{3} - \frac{1}{3}x^2$ ,  $x \geq 0$ ; YES

7.  $f^{-1}(x) = \frac{5}{x} - 10 = \frac{5}{x} - \frac{10x}{x} = \frac{5-10x}{x}$ ,  $x \neq 0$ ; YES

8.  $f^{-1}(x) = \frac{2}{x-3} - 1 = \frac{2}{x-3} - \frac{x-3}{x-3} = \frac{5-x}{x-3}$ ,  $x \neq 3$ ; YES