

All Weekly HW 2

1. $x = 6t$ $y = 1 - \cos t$ $\therefore \frac{dy}{dx} = \frac{\sin t}{6}$ ✓
 $\frac{dx}{dt} = 6$ $\frac{dy}{dt} = 0 - (-\sin t)$ ✓
 $= \sin t$ ✓

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2. $\frac{13-x}{x^2+4x-5} = \frac{13-x}{(x-1)(x+5)}$
 $= \frac{A}{x-1} + \frac{B}{x+5}$ ✓

$$13-x = A(x+5) + B(x-1)$$

Sub $x=1$; $12 = 6A$ $x=-5$; $13+5 = B(-5-1)$

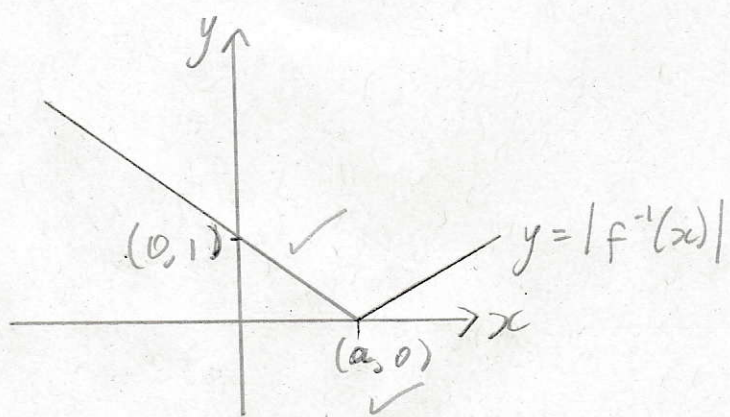
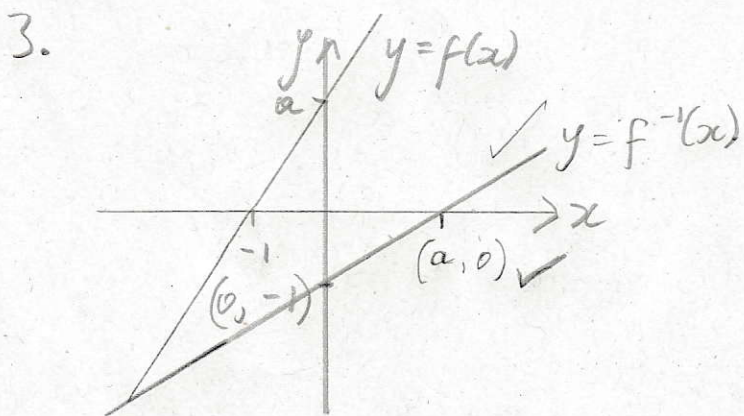
$$A = 2$$
 ✓

$$18 = -6B$$

$$B = -3$$

$\therefore \frac{13-x}{x^2+4x-5} = \frac{2}{x-1} - \frac{3}{x+5}$ ✓

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