

Quiz #1

Please print your name:

Problem 1. (2+3 points) Simplify the following expressions.

(a) $2^{\sqrt{5}} \cdot 3^{\sqrt{5}} =$

(b) $e^{\ln(6x) - \ln(2y)} =$

Solution.

(a) $2^{\sqrt{5}} \cdot 3^{\sqrt{5}} = 6^{\sqrt{5}}$

(b) $e^{\ln(6x) - \ln(2y)} = e^{\ln\left(\frac{6x}{2y}\right)} = 3\frac{x}{y}$

Problem 2. (3+2 points)

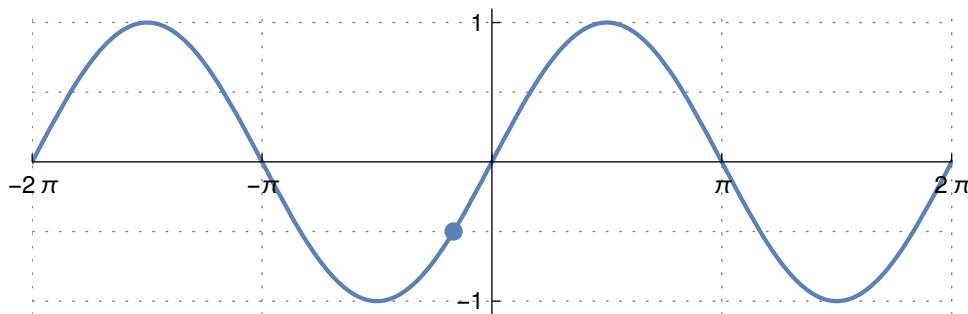
[For the second part, you need to give an exact answer in radians.]

(a) (Roughly) sketch $f(x) = \sin(x)$ in the coordinate system below.

(b) $\sin^{-1}\left(-\frac{1}{2}\right) =$. Mark the corresponding point in your earlier sketch.

Solution.

(a)



(b) $\sin^{-1}\left(-\frac{1}{2}\right) = -\frac{\pi}{6}$