

Math-1003b Homework #12

Reading

- Sections 10.2 and 10.3

Problems

- 1). A student writes the following statements. Determine if each is either correct or incorrect (or misleading). Explain why incorrect statements are incorrect.

a). $\sqrt{9} = \pm 3$

b). $\left(x^{\frac{1}{2}}\right)^2 = |x|$

c). $(x^2)^{\frac{1}{2}} = x$

d). $(x^3)^{\frac{1}{3}} = |x|$

e). $\left(x^{\frac{1}{3}}\right)^3 = x$

- 2). Simplify completely. Your answer should contain no negative exponents and should include absolute values where appropriate:

$$\left(\frac{x^4}{y^{-6}}\right)^{-\frac{1}{2}} (x^3 y^{-2})$$