

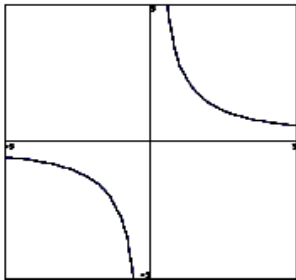


Quiz 3.1 – Power Functions

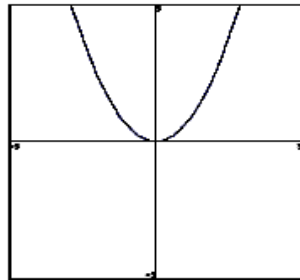
1. (1 pt) alfredLibrary/AUCI/chapter3/lesson1/quiz/question22pet.pg

Match the graphs with the corresponding formulas. You should be able to recognize the basic shapes of these graphs from memory.

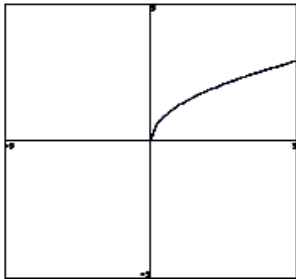
- 1. x^2
- 2. $\frac{1}{x}$
- 3. x
- 4. x^3
- 5. \sqrt{x}
- 6. $\frac{1}{x^2}$
- 7. $x^{\frac{1}{3}}$



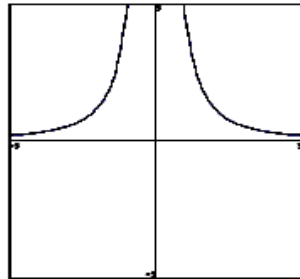
A



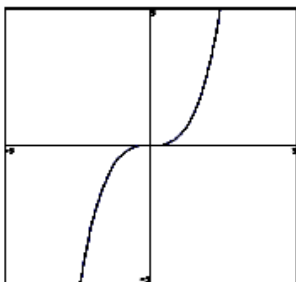
B



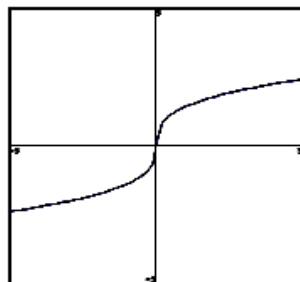
C



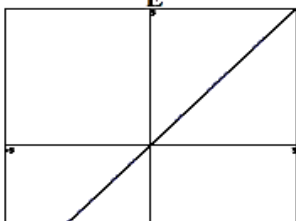
D



E



F



2. (1 pt) alfredLibrary/AUCI/chapter3/lesson1/quiz/question2pet.pg

(a) Rewrite as a power function using a single exponent:

$x^{-6}x^5 = x^{\quad}$ (the answer blank is for the exponent only)

(b) Rewrite as a power function using a single exponent:

$(x^3)^{-8} = x^{\quad}$ (the answer blank is for the exponent only)

(c) Rewrite as a power function using a coefficient and a single exponent:

$\frac{5}{7\sqrt{x^9}} = \quad x^{\quad}$

3. (1 pt) alfredLibrary/AUCI/chapter3/lesson1/quiz/power4pet.pg

Use the power rule and the constant multiple rule to compute the following derivatives. It may be necessary to rewrite some of the functions in the form ax^p .

(a) $\frac{d}{dx} (13x^{15}) = \quad$

(b) $\frac{d}{dx} (-11x^{-5}) = \quad$

(c) $\frac{d}{dx} \left(\frac{-11}{9x^7}\right) = \quad$

(d) $\frac{d}{dx} (-11x^{0.3}) = \quad$