

1. Determine if each function is a polynomial function or some other type of function. Justify your conclusion.

a) $f(x) = 2x^3 + x^2 - 5$

b) $f(x) = x^2 + 3x - 2$

c) $y = 2x + 7$

d) $y = \sqrt{x + 1}$

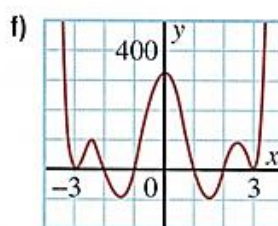
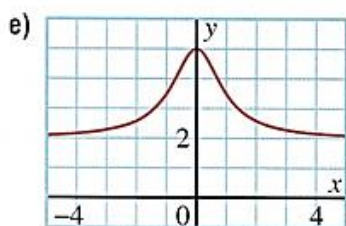
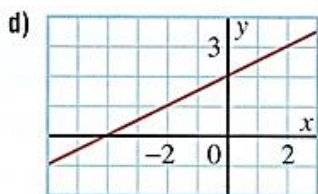
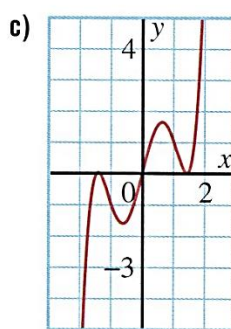
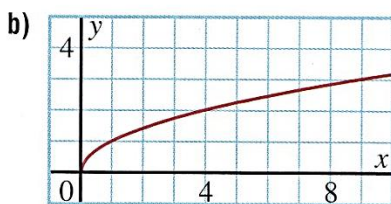
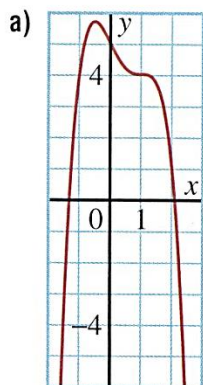
e) $y = \frac{x^2 + x - 4}{x + 2}$

f) $f(x) = x(x - 1)^2$

g) $g(x) = 1.2x^2 + \frac{1}{2}x - \pi$

h) $y = \sqrt{2x^3} + 2x - 0.5$

2. Examine these graphs. Which could be graphs of polynomial functions? Explain.

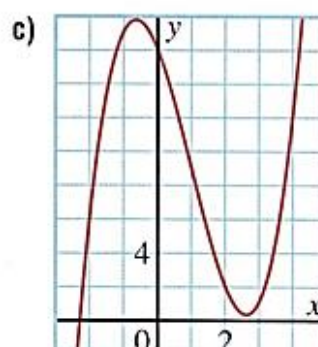
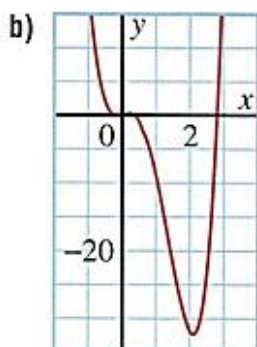
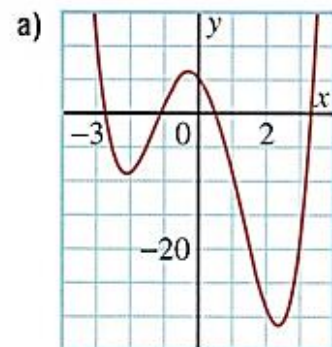


5. Identify the function that corresponds to each graph. Justify your choices.

$f(x) = x^3 - 3x^2 - 5x + 16$

$g(x) = x^4 - 10x^2 - 5x + 5$

$k(x) = 5x^4 - 14x^3$



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1. Conclusions may vary.

- a) Polynomial
- b) Polynomial
- c) Polynomial
- d) Other
- e) Other
- f) Polynomial
- g) Polynomial
- h) Other

2. Explanations may vary. Parts a, c, d, and f

- 5. a) $g(x) = x^4 - 10x^2 - 5x + 5$
- b) $k(x) = 5x^4 - 14x^3$
- c) $f(x) = x^3 - 3x^2 - 5x + 16$