

ESP
Kouba
Worksheet 2

1. Determine the domain and range of each function.

a. $y = \ln x$

b. $y = \sqrt{x}$

c. $y = e^x$

d. $y = x^3 - x$

e. $y = \frac{1}{\sqrt{9 - x^2}}$

2. Determine an equation for the set of points equidistant from $(0, 0)$ and $(3, 2)$.

3. Determine the next three terms of the given sequence of integers :

$$1, 2, 4, 9, 19, 36, 62, \dots$$

4. Give an example of a function $f(x)$ (and sketch it) and constants b and c satisfying :

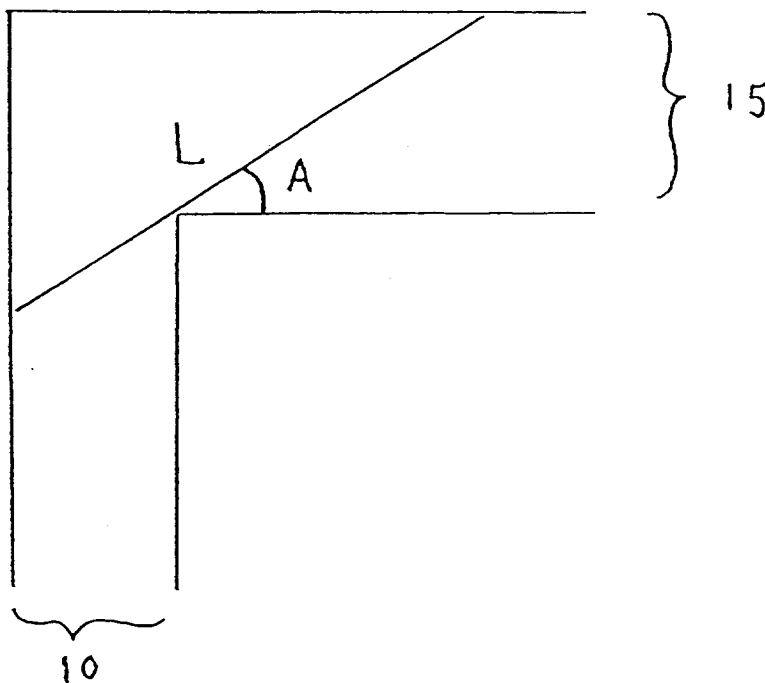
a. $f(b) + f(c) = f(b + c)$

b. $f(b) + f(c) \neq f(b + c)$

5. Let $f(x) = 2 + \frac{x}{x+1}$. Determine a function $g(x)$ so that $f(g(x)) = x$

for all admissible values of x .

6. Assume that the vertical and horizontal lines in the diagram are parallel. Determine a formula for the length L as a function of angle A .



7. Consider the given triangle with side lengths A , B , and C . Write the area of the triangle as a function of

- θ , A , and C
- A , B , and C (but not θ)

