MATHS

BOOKS - CENGAGE MATHS (HINGLISH)

RELATIONS AND FUNCTIONS

Solved Examples And Exercises

1. If f is a linear function and f(2)=4,f(-1)=3 then find f(x)

A. $\frac{x+10}{3}$

B. $\frac{x+1}{3}$

C. x+2

D. 2x+1

Answer: A

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2. A function is defined as $f(x) = \frac{x^2+1}{3x-2}$. Can $f(x)$ take a value 1 for any real x ? Also find the value (s) of x for which $f(x)$ takes the value 2.

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3. A function is defined as $f(x) = x^2 - 3x$. Find the value of $f(2)$. Find the value of x for which $f(x) = 4$.

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4. Find the value of x^2 for the given values of x.

$(i)x < 3 (ii)x > -1 (iii)x \geq 2 (iv)x < -1$

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5. Find the value of $1/x$ for the given values of x.

$x > 3$ (ii) $x < -2$ (iii) $x \in (-1, 3) - \{0\}$

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6. Find the values of x for which the following functions are defined,. Also find all possible values which functions take. $f(x) = \frac{1}{x+1}$ (ii) $f(x) = \frac{x-2}{x-3}$ (iii) $f(x) = \frac{2x}{x-1}$

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7. IIf

$f(x) = \{x^3, x < 03x - 2, 0 \leq x \leq 2, x^2 + 1, x > 2$

, then find the value of $f(-1) + f(1) + f(3)$.

Also find the value (s) of x for which $f(x) = 2$.

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8. Find all the possible values of the following expressions: $\frac{1}{x^2 + 2}$ (ii) $\frac{1}{x^2 - 2x + 3}$ (iii) $\frac{1}{x^2 - x - 1}$

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9. Find all the possible the value of the following expression. $\sqrt{x^2-4}$ (ii) $\sqrt{9-x^2}$ (iii) $\sqrt{x^2-2x+10}$

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