Problems to be answered in comment box.

Which of these relations is/are functions

1. $R = \{(x, y): y = x^2, x, y \in R\}$
2. $S = \{(a, b): b = \sqrt{a}, a, b \in R_0\}$
3. $S = (x, y): y = \frac{1}{x-1}, x, y \in R\}$
4. $P = \left\{(x, y): y = \frac{x+3}{x-2}, x, y \in R - \{2\}\right\}$

Problems to be answered in comment box.

5. If $f(2x+3) = x$ then evaluate $f(-1)$.

6. If $f\left(\frac{x+1}{x-1}\right) = x^2$ then evaluate $f(2)$.

7. If $2f(x) + f\left(\frac{1}{x}\right) = x^2 + \frac{1}{x^2}$ find $f(2)$.

Problems to be answered in comment box.

Functions

8. If domain of function

$f(x) = \sqrt{x^2 - 4} + \sqrt{16 - x^2}$ is [-4, 4] - (a, b) then evaluate "a + b"

9. If domain of the function $f(x) = \sqrt{\frac{2-x}{x-3}}$ is [a, b) find $a^2 + b^2$.

10. If domain of the function

$f(x) = \frac{1}{x-3} + \frac{x+2}{x-4}$ is $R - \{a, b\}$ then evaluate a + b.

11. If domain of the function

$f(x) = \sqrt{x} + \sqrt{-x}$ is set A then find n(A)