

Exercise Set 5 (No Calculator)

1

If $\frac{1}{3} - \frac{1}{5} = \frac{y}{9}$, what is the value of y ?

--	--	--	--

2

If $\frac{x}{x+1} + \frac{1}{x-1} = \frac{25}{24}$ and $x > 0$, what is the value of x ?

--	--	--	--

3

If $\frac{1}{x-2} - \frac{1}{x+2} = \frac{8}{5}$, what is the value of x^2 ?

--	--	--	--

4

If $2 - \frac{1}{z} = -\frac{5}{6}$, what is the value of z ?

--	--	--	--

5

Let $g(x) = x^2 - 9x + 18$ and $h(x) = \frac{g(x)}{x-a}$, where a is a constant. If $h(4) = \frac{1}{12}$, what is the value of a ?

--	--	--	--

6

If $\frac{1}{2x-2} - \frac{1}{2x+1} = \frac{a}{4x^2-2x-b}$ for all values of x greater than 1, what is the value of $a + b$?

--	--	--	--

7

Which of the following is equivalent to $\frac{2}{1-x} + \frac{x}{x-1}$ for all x greater than 1?

- A) $\frac{x+2}{x^2-1}$
 B) $\frac{x+2}{x-1}$
 C) $\frac{x-2}{x^2-1}$
 D) $\frac{x-2}{x-1}$

8

For how many distinct integer values of n is $\frac{n+5}{n+2} > 2$?

- A) Zero B) One C) Two D) Three

9

If $a = \frac{1}{4}x$ and $a > 1$, which of the following is equivalent to $\frac{4(x-4)^2}{4x^2-64}$?

- A) $\frac{a-4}{a+4}$
 B) $\frac{a^2-4}{a^2+4}$
 C) $\frac{a-1}{a+1}$
 D) $\frac{a^2-1}{a^2+1}$