

Simplify the followings

ANSWERS

1a _____

1b _____

2a _____

2b _____

3a _____

3b _____

4a _____

4b _____

5a _____

5b _____

$$1. a) 1 + \frac{a}{1 - \frac{a}{a + \frac{a}{a-1}}}$$

$$b) 1 - \frac{a}{1 - \frac{a}{1 - \frac{1}{a+1}}}$$

$$2. a) \frac{1}{(y-1)(y-2)} + \frac{1}{(y-2)(y-3)} + \frac{1}{(y-3)(y-4)}$$

$$b) \frac{1}{(x-1)(x-3)} + \frac{1}{(x-3)(x-5)} + \frac{1}{(x-5)(x-7)}$$

$$3. a) \left(\frac{12-a^2}{a+3} + a - 3 \right) \div \left(\frac{1}{a+3} + \frac{a}{a^2-9} + \frac{5}{3-a} \right)$$

$$b) \left(\frac{x}{x^2-25} + \frac{5}{5-x} + \frac{1}{x+5} \right) \div \left(x - 5 + \frac{28-x^2}{x+5} \right)$$

$$4. a) \left(\frac{m}{m-6} - \frac{2m}{m^2-12m+36} \right) \times \frac{36-m^2}{m-8} + \frac{12m}{m-6}$$

$$b) \left(\frac{3n}{n-4} - \frac{6n}{n^2-8n+16} \right) \div \frac{n-6}{16-n^2} + \frac{24n}{n-4}$$

$$5. a) \frac{x-3}{4x^2+24x+36} \div \left(\frac{x}{3x-9} - \frac{3}{x^2+3x} + \frac{x^2+9}{27-3x^2} \right)$$

$$b) \left(\frac{y}{4y+16} - \frac{y^2+16}{4y^2-64} - \frac{4}{y^2-4y} \right) \times \frac{3y^2-24y+48}{y+4}$$

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$$6. a) \left(\frac{a-b}{a^2+ab} - \frac{1}{a^2-b^2} \times \frac{(b-a)^2}{a+b} \right) \div \frac{a-6}{a^2+ab}$$

6a

6b

$$b) \left(\frac{1}{4x^2-y^2} \div \frac{2x+y}{(y-2x)^2} - \frac{2x-y}{4x^2+2xy} \right) \times \frac{(2x+y)^2}{y^2}$$

7a

7b

$$7. a) \text{ If } x + \frac{1}{x} = 1.5 \text{ then find } x^2 + \frac{1}{x^2}$$

$$b) \text{ If } \frac{1}{a} - a = 1.2 \text{ then find } \frac{1}{a^2 + a^2}$$

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