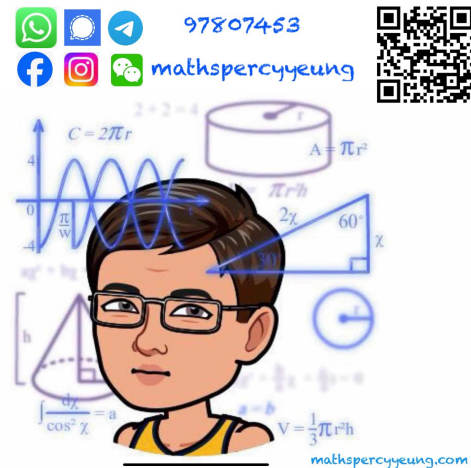




## F.2 Mathematics

## MC Exercise

## 2B9 Algebraic Fractions and Formulae

1. Which of the following is/are algebraic fraction(s)?

I.  $\frac{3}{4x}$

II.  $\frac{4x-5}{3}$

III.  $\frac{4x-5}{3+4x}$

- A. I only  
 B. I and II only  
 C. I and III only  
 D. II and III only

2. Simplify  $\frac{21ax-7ay}{14ay}$ .

- A.  $\frac{x}{y}$   
 B.  $\frac{2x-3y}{y}$   
 C.  $\frac{3x-y}{2y}$   
 D.  $\frac{x-3y}{2y}$

3.  $\frac{8x}{4x^3-20x^2+12x} =$

- A.  $\frac{x^2-5x+3}{2}$   
 B.  $\frac{2}{x^2-5x+3}$   
 C.  $\frac{x^2-5x+3}{2x}$   
 D.  $\frac{2x}{x^2-5x+3}$

4.  $\frac{36-x^2}{6-x} =$

- A.  $x+6$ .  
 B.  $-x-6$ .  
 C.  $x-6$ .  
 D.  $6-x$ .

5. Simplify  $\frac{7b^2}{2a} \times \frac{2a^2}{4b^2}$ .

- A.  $\frac{7a}{4}$   
 B.  $\frac{4}{7a}$   
 C.  $\frac{4}{a}$   
 D.  $\frac{7}{a}$

6.  $\frac{x^2-y^2}{x} \div \frac{y-x}{x^2} =$

- A.  $\frac{x+y}{x}$ .  
 B.  $-\frac{x+y}{x}$ .  
 C.  $x(x+y)$ .  
 D.  $-x(x+y)$ .

7. Simplify  $\frac{10c^2}{d^3} \div \frac{15c}{d} \times \frac{d^2}{c}$ .

- A.  $\frac{2}{3}$   
 B.  $\frac{3}{2}$   
 C.  $-\frac{2}{3}$   
 D.  $-\frac{3}{2}$

8.  $\frac{2}{10y} + \frac{3}{10y} =$

A. 5.

B.  $\frac{1}{4y}$ .

C.  $\frac{1}{2y}$ .

D.  $\frac{4}{5y}$ .

9.  $\frac{1}{4y} - \frac{5}{12y} =$

A.  $-\frac{1}{6y}$ .

B.  $-\frac{1}{2y}$ .

C.  $-\frac{1}{y}$ .

D.  $\frac{5}{8y}$ .

10. Simplify  $\frac{10p}{q-10p} + \frac{q}{10p-q}$ .

A. 1

B. -1

C.  $\frac{10p+q}{q-10p}$

D.  $\frac{10p+q}{10p-q}$

11.  $\frac{2}{x+1} - 1 =$

A.  $\frac{1}{x+1}$ .

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

C.  $\frac{1-x}{x+1}$ .

D.  $\frac{3-x}{x+1}$ .

12.  $P = A(1 - 0.2')$

A.  $-\frac{2x^2}{1-x}$ .

B.  $\frac{3x+x^2}{1-x}$ .

C.  $\frac{3x+4x^2}{1-x}$ .

D.  $\frac{3x-2x^2}{1-x}$ .

13. It is given that  $xy = 3y - 5x$ . If  $x = 2$ , find the value of  $y$ .

A. -2

B.  $\frac{7}{6}$

C. 2

D. 10

14. It is given that  $\frac{x}{2y} = k - 1$ .

If  $x = 4$  and  $k = 9$ , find the value of  $y$ .

A.  $\frac{1}{4}$

B.  $\frac{11}{9}$

C.  $\frac{3}{2}$

D. 64

15. It is given that  $s = \frac{a}{1-r}$ .

If  $s = 9$  and  $a = 6$ , find the value of  $r$ .

A.  $-\frac{9}{5}$

B.  $-\frac{3}{4}$

C.  $\frac{1}{3}$

D.  $\frac{2}{3}$

16. It is given that  $V = \frac{1}{3}r^2h$ .

If  $V = 8$  and  $r = 2$ , find the value of  $h$ .

- A.  $\frac{3}{32}$
- B. 2
- C. 6
- D. 12

17. It is given that

$$1 + 2 + 3 + \cdots + n = \frac{n(n+1)}{2}.$$

$$150 + 151 + 152 + \cdots + 200 =$$

- A. 8 725.
- B. 8 775.
- C. 8 874.
- D. 8 925.

18. If  $2x - 3y = 6z$ , then  $y =$

- A.  $\frac{2x - 2z}{3}$ .
- B.  $\frac{2x - 6z}{3}$ .
- C.  $\frac{6z - 2x}{3}$ .
- D.  $\frac{2x + 6z}{3}$ .

19. It is given that  $A = 20(4 - s)$ , which of the following must be correct?

I.  $s = 80 - A$

II.  $s = 4 - \frac{A}{20}$

III.  $s = \frac{80 - A}{20}$

- A. III only
- B. I and II only
- C. I and III only
- D. II and III only

20. If  $f = k + \frac{m}{x}$ , then  $x =$

- A.  $k + \frac{m}{f}$ .
- B.  $\frac{m}{k - f}$ .
- C.  $\frac{m}{f - k}$ .
- D.  $\frac{m}{f + k}$ .

21. If  $z = \frac{xy}{x - y}$ , then  $y =$

- A.  $\frac{xz}{x + z}$ .
- B.  $\frac{xz}{x - z}$ .
- C.  $\frac{x + z}{xz}$ .
- D.  $\frac{x - z}{xz}$ .

22. If  $y = 1 + n$  and  $x = \frac{1}{n - 1}$ , then  $y =$

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