

TB(2A) Ch. 5 Algebraic Fractions and Formulae
Multiple Choice Questions**1. [16-17 F.2 Mid-year #5]**Simplify $\frac{24a^6b^8}{8a^2b^4}$.

- A. $16a^3b^2$
- B. $16a^4b^4$
- C. $3a^3b^2$
- D. $3a^4b^4$

2. [16-17 F.2 Mid-year #6]If $2x + 3y = 4$, then $y =$

- A. $\frac{4-2x}{3}$
- B. $\frac{4+2x}{3}$
- C. $\frac{3}{4-2x}$
- D. $\frac{3}{4+2x}$

3. [16-17 F.2 Mid-year #17] $\frac{4u+3v}{2u-v} - 5 =$

- A. $\frac{-3u+8v}{u-v}$
- B. $\frac{-6u+4v}{2u-v}$
- C. $\frac{-3u+4v}{u-v}$
- D. $\frac{8v-6u}{2u-v}$

4. [16-17 F.2 Final Exam #3]

If $\frac{1}{x} - \frac{1}{y} = 1$, then $y =$

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

5. [16-17 F.2 Final Exam #6]

If $\sqrt{a} = 9$ and $\sqrt{b} = 2$, then $\sqrt{a-b} =$

- A. $\sqrt{7}$.
 B. $\sqrt{77}$.
 C. $3 - \sqrt{2}$.
 D. $2 - \sqrt{3}$.

6. [17-18 F.2 Mid Year Exam #5]

Given that $D = b^2 - 4ac$, find the value of D when $a = -3$, $b = -2$ and $c = -1$.

- A. -8 B. 8
 C. 16 D. -16

7. [17-18 F.2 Mid Year Exam #13]

$$\frac{1}{x+2y} - \frac{1}{x-2y} =$$

- A. $\frac{2x}{x^2-4y^2}$. B. $\frac{2x}{4y^2-x^2}$.
 C. $\frac{4y}{x^2-4y^2}$. D. $\frac{4y}{4y^2-x^2}$.

8. [17-18 F.2 Mid Year Exam #14]

If $y = \frac{1+x}{1-x}$, then $x =$

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

9. [17-18 F.2 S Test #6]

Which of the following is/are formula(e)?

- I. $2x + 2 = 1$
- II. $x = \pi$
- III. $D = a^2 - 4ac$

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

10. [17-18 F.2 S Test #9]

$$\frac{x^2 - 18x + 81}{x^2 - 9} \div \frac{243 - 3x^2}{3x + 9} \times (x - 3) =$$

- A. $\frac{x - 9}{x + 9}$.
- B. 1.
- C. $\frac{9 - x}{9 + x}$.
- D. $\frac{x + 9}{x - 9}$.

11. [17-18 F.2 Final Exam #2]

$$\frac{x + 1}{1 - x} \div \frac{x}{x - 1} =$$

- A. $-\frac{x + 1}{x}$.
- B. $\frac{x + 1}{x}$.
- C. 2.
- D. 0.

12. [17-18 F.2 Final Exam #13]

If $h = 3 - \frac{5+k}{k}$, then $k =$

- A. $\frac{5}{4-h}$.
- B. $\frac{5}{2-h}$.
- C. $\frac{h+5}{2}$.
- D. $\frac{h+5}{4}$.

13. [18-19 F.2 S Test 1 #1]

It is given that $m = 5(2 - n)$. Find the value of n if $m = -20$.

- A. -6
- B. -2
- C. 2
- D. 6

14. [18-19 F.2 S Test 1 #8]

Simplify $\frac{1}{3a} - \frac{a^2 - a}{a^2} \div \frac{a^2 - 1}{2a + 2}$.

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

15. [18-19 F.2 Mid-year #4]

$$\frac{4}{3a} - \frac{5}{7a} =$$

- A. $-\frac{1}{21a}$.
- B. $\frac{11}{21a}$.
- C. $\frac{13}{21a}$.
- D. $\frac{13a}{21}$.

16. [18-19 F.2 Mid-year #5]

$$\frac{2a}{a-b} \div \frac{b-a}{4a^2} \times \frac{(a-b)^2}{8a^3} =$$

- A. -1 . B. $-\frac{(a-b)^2}{16a^4}$.
 C. 0 . D. 1 .

17. [18-19 F.2 Mid-year #6]

Consider the formula $s = \frac{v^2 - u^2}{2a}$. Find the value of s when $a = -10$, $u = -5$ and $v = 15$.

- A. -5 B. -10
 C. -12.5 D. -20

18. [18-19 F.2 Mid-year #15]

$$\frac{ab + a - b - b^2}{3(b-a)} =$$

- A. $\frac{a-1}{3}$. B. $\frac{1-b}{3}$.
 C. $\frac{b+1}{3}$. D. $-\frac{b+1}{3}$.

19. [18-19 F.2 Mid-year #16]

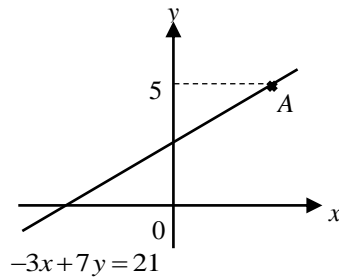
If $\frac{1}{x} + \frac{1}{y} = \frac{1}{z}$, then $y =$

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

20. [18-19 F.2 Final Exam #7]

In the figure, A is a point on the graph of the equation $-3x + 7y = 21$. The x -coordinate of A is

- A. -7 .
- B. 3 .
- C. $\frac{14}{3}$.
- D. $\frac{36}{7}$.



21. [18-19 F.2 Final Exam #8]

If $b - 2a = 2a + 7b = -10$, then $b =$

- A. -12 .
- B. -2.5 .
- C. 2 .
- D. 3.75 .

22. [18-19 F.2 Final Exam #12]

If $h = 5 - \frac{4}{k+3}$, then $k =$

- A. $\frac{3h-11}{5-h}$.
- B. $\frac{11-3h}{5-h}$.
- C. $\frac{3h+19}{5-h}$.
- D. $\frac{3h+19}{h-5}$.

23. [19-20 F.2 Standardized test 1, #4]

Consider the formula $s = ut + \frac{1}{2}at^2$. Find the value of u if $s = 6$, $t = -2$ and $a = 4$.

- | | |
|---------|---------|
| A. -7 | B. -1 |
| C. 1 | D. 7 |

24. [19-20 F.2 Standardized test 1, #5]

If $\frac{5+h}{4-h} = k$, then $h =$

- A. $\frac{4k-5}{k+1}$. B. $\frac{4k+5}{k+1}$.
 C. $\frac{4k-5}{k-1}$. D. $\frac{4k+5}{k-1}$.

25. [19-20 F.2 Standardized test 1, #9]

$\frac{x}{x+1} - \frac{y}{(y-1)^2} \div \frac{1}{1-y} =$

- A. $\frac{-x-y}{(x+1)(y-1)}$. B. $\frac{2xy+x+y}{(x+1)(y-1)}$.
 C. $\frac{2xy-x-y}{(x+1)(y-1)}$. D. $\frac{2xy-x+y}{(x+1)(y-1)}$.

26. [19-20 F.2 Mid-year exam, #4]

Simplify $\frac{5m}{25n^2} \div \frac{m^2}{4n}$.

- A. $\frac{1}{5}$ B. $\frac{4}{5mn}$
 C. $\frac{m}{20n}$ D. $\frac{m^3}{20n^3}$

27. [19-20 F.2 Mid-year exam, #5]

If $d - 3(a - b) = a$, then $b =$

- A. $\frac{2a-d}{3}$. B. $\frac{d-2a}{3}$.
 C. $\frac{4a-d}{3}$. D. $\frac{d-4a}{3}$.

28. [19-20 F.2 Mid-year exam, #11]

Consider the formula $s = \frac{u}{t} - \frac{kt^2}{2}$. Find the value of u when $s = 4$, $k = -3$ and $t = -2$.

- A. -20 B. -16
 C. 2 D. 4

29. [19-20 F.2 Mid-year exam, #14]

Simplify $2 + \frac{3y-3}{y-3} \times \frac{xy}{xy-x}$.

- A. $\frac{3y+2}{y-1}$ B. $\frac{3y-2}{y-1}$
 C. $\frac{5y-6}{y-3}$ D. $\frac{y+5}{y-3}$

30. [20-21 F.2 Mid-year exam, #3]

$$\frac{ab^2 + bc^2}{2bc} \times \frac{4c^2}{a^2b + ac^2} =$$

- A. $\frac{2c}{a}$.
 B. $\frac{c}{2a}$.
 C. $\frac{b}{2c}$.
 D. $\frac{2b}{c}$.

31. [20-21 F.2 Mid-year exam, #4]

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

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

32. [20-21 F.2 Mid-year exam, #10]

$$\frac{x+y}{x} - \frac{4y}{x+y} =$$

- A. $\frac{x+y}{x}$.
 B. $\frac{x-y}{x(x+y)}$.
 C. $\frac{(x-y)^2}{x(x+y)}$.
 D. $\frac{4xy}{x(x+y)}$.

33. [20-21 F.2 Mid-year exam, #11]

Make q as the subject of the formula $\frac{2}{p} = \frac{-5}{q} + \frac{3}{r}$.

A. $q = \frac{-5pr + 3pq}{2r}$

B. $q = \frac{2r - 3p}{-5pr}$

C. $q = \frac{5pr}{3p - 2r}$

D. $q = \frac{5pr}{2r - 3p}$

34. [20-21 S.2 Final exam, #3]

Simplify $\frac{4x^2 - 12xy + 9y^2}{4x - 6y}$.

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

B. $x - 3y$

C. $\frac{x^2 - 3xy + 3y^2}{x - 2y}$

D. $\frac{x^2 - 12xy + 9y^2}{x - 6y}$

35. [20-21 S.2 Final exam, #15]

Simplify $\frac{a^2}{b-a} \div \frac{a^2 + ab}{a^2 - b^2}$.

A. $\frac{a+b}{ab}$

B. $-\frac{a+b}{ab}$

C. a

D. $-a$

~ End ~