Seventh Grade - Expression and Equation

1) Simplify the following expressions

$$\frac{5x}{3} \times 15$$

- 34x
- 22x
- 56x
- 25x

2) Simplify the following expressions

$$-\frac{3}{5}u\times(-20v)$$

- 24uv
- 12uv
- 18uv
- 32uv

3) Simplify the following expressions

$$\frac{2}{3}$$
y³ + $\frac{1}{4}$ y³

a)
$$\frac{17}{30}$$
 y³ b) $\frac{27}{11}$ y³ c) $\frac{11}{12}$ y³ d) $\frac{37}{30}$ y³

- 8
- d
- C
- b

4) Simplify the following expressions

$$\frac{2}{7}b^4 + \frac{1}{14}b^4$$

a)
$$\frac{5}{25}b^4$$
 b) $\frac{7}{10}b^4$ c) $\frac{5}{14}b^4$ d) $\frac{3}{15}b^4$

- a
- 0
- b
- d

5) Simplify the following expressions

i)
$$\left(\frac{3}{5}y^3\right)\left(\frac{2}{7}y^3\right)$$
, ii) $\frac{3}{5}y^2 + \frac{2}{7}y^2$

(a) i)
$$\frac{6}{35}$$
 y⁶, ii) $\frac{31}{35}$ y² (b) i) $\frac{7}{10}$ y⁶, ii) $\frac{4}{10}$ y²

(c) i)
$$\frac{2}{11}$$
 y⁶, ii) $\frac{4}{12}$ y² (d) i) $\frac{5}{25}$ y⁶, ii) $\frac{3}{15}$ y²

- C
- 0
- h
- a

6) Simplify the following expressions

$$\frac{4}{5}x^2 + x^2 - \frac{3}{7}x^2$$

- (48/35) x²
- (48/35) x³
- (28/35) x²
- (35/48) x²

7) Simplify the following expressions

$$\frac{3(y+1)}{5} + 1 - y$$

- (4 3y) / 9
- (6 3y) / 8
- (3 2y) / 9
- (8 2y) / 5

8) Simplify the following expressions

$$5 - 4\left[\frac{3}{4}x + 2y\right] + \frac{7}{5}y - 10x - 11$$

(a)
$$\frac{47}{5}$$
 y-13x-6 (b) $\frac{27}{10}$ y-19x-8

(c)
$$\frac{45}{12}$$
 y-27x-9 (d) $\frac{39}{5}$ y-25x-7

- a
- b
- d
- 0

9) Simplify the following expressions

$$5ab + \frac{3}{4}bc - 2\frac{1}{2}ab + \frac{1}{4}cb$$

(a)
$$\frac{5}{2}$$
 ab+bc (b) $\frac{1}{4}$ ab+bc

(c)
$$\frac{2}{3}$$
 ab-bc (d) $\frac{5}{9}$ ab-bc

- b
- a
- C
- d

10) Simplify the following expressions

$$\frac{5(p-q)}{2} - \frac{2q-p}{14} - \frac{2(p+q)}{7}$$

- (41p-21q) / 18
- (22p-41q) / 13
- (52p-41q) / 18
- (32p-41q) / 14

11) Express the following as a single fraction in its simplest form

$$\frac{x}{3} + \frac{2x}{5} - \frac{5x}{6}$$

- x/14
- -x/13
- -x/10
- -x/12

12) Express the following as a single fraction in its simplest form

$$5e - \frac{3e - 4}{2} + \frac{e - 7}{3}$$

- (23e 2) / 6
- (43e 4) / 9
- (33e 2) / 7
- (35e 2) / 5

13) Express the following as a single fraction in its simplest form

$$\frac{x+1}{2} + \frac{x+3}{3} - \frac{5x-1}{6}$$

- 1/4
- 1/2
- 5/3
- 2/3

14) Express the following as a single fraction in its simplest form

$$\frac{2(p-4q)}{3} - \frac{3(2p+9)}{2}$$

- (-14p -16q 81) / 6
- (-32p -31q 81) / 7
- (-24p -24q 41) / 5
- (-12p -14q 81) / 5

15) Express the following as a single fraction in its simplest form

$$\frac{2(a-b)}{7} - \frac{2a+3b}{14} + \frac{a+b}{2}$$

- 8a/13
- 5a/16
- 6a/19
- 9a/14
- 16) Express the following as a single fraction in its simplest form

$$\frac{1}{2}a+b-\frac{3}{5}(a-b)$$

- (-a + 16b) / 10
- (-a + 11b) / 21
- (-a + 13b) / 14
- (-a + 26b) / 15
- 17) Express the following as a single fraction in its simplest form

$$\frac{x-1}{4} - \frac{6-2x}{3} + \frac{x}{2}$$

- (19x-19) / 21
- (12x-17) / 15
- (14x-11) / 19
- (13x-15) / 12
- 18) Express the following as a single fraction in its simplest form

$$\frac{7q-4r}{3}-\frac{10q+4r}{9}$$

- (11q-16r) / 6
- (18q-14r) / 9
- (13q-12r) / 7
- (12q-13r) / 5

19) Express the following as a single fraction in its simplest form

$$\frac{3a+1}{5} - \frac{3a-2}{10}$$

- (3a + 4) / 10
- (7a + 5) / 18
- (6a + 5) / 16
- (4a + 2) / 12

20) Express the following as a single fraction in its simplest form

$$\frac{2x+5}{3} - \frac{3x-2}{4}$$

- (-2x+22) / 13
- (-x+27) / 19
- (-x+23) / 15
- (-x+26) / 12

21) Solve the following linear equations with rational coefficients

$$\frac{2x+7}{4} = 12$$

- 41/2
- 23/3
- 30/4
- 11/2

$$\frac{3}{5+2x} = 2$$

- -(3/5)
- -(7/4)
- -(5/4)
- -(3/4)

23) Solve the following linear equations with rational coefficients

$$\sqrt{2x+5} = 4$$

- 12/4
- 11/2
- 21/3
- 31/4

24) Solve the following linear equations with rational coefficients

$$\sqrt{x-1}=2$$

- 5
- 9
- 3
- 2

$$2 + \frac{y-4}{3y} = 1$$

- 5/4
- 4/3
- 2/3

• 3/4

26) Solve the following linear equations with rational coefficients

$$(2x-3)^3 = \frac{1}{27}$$

- 5/7
- 4/9
- 2/3
- 4/6

27) Solve the following linear equations with rational coefficients

$$\frac{x}{4} - 3 = 0$$

- 12
- 18
- 19
- 15

28) Solve the following linear equations with rational coefficients

$$\sqrt[3]{p} = 11$$

- 3234
- 1245
- 1331
- 2344



- 11/3
- 31/2
- 16/9
- 21/4

$$\frac{3}{t} = \frac{5}{t - 4}$$

- t = -5
- t = -6
- t = -9
- t = -7