Seventh Grade - Expression and Equation

1) Simplify the following expressions

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

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

2) Simplify the following expressions

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

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

3) Simplify the following expressions

$$\frac{2}{3}y^3 + \frac{1}{4}y^3$$

a) $\frac{17}{30}y^3$ b) $\frac{27}{11}y^3$ c) $\frac{11}{12}y^3$ d) $\frac{37}{30}y^3$

- a
- d
- b
- c

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
- b
- d
- c

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) $\frac{6}{35}y^6$, ii) $\frac{31}{35}y^2$ (b) i) $\frac{7}{10}y^6$, ii) $\frac{4}{10}y^2$

(c) i) $\frac{2}{11}y^6$, ii) $\frac{4}{12}y^2$ (d) i) $\frac{5}{25}y^6$, ii) $\frac{3}{15}y^2$

- d
- c
- a
- b

6) Simplify the following expressions

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

- (35/48) x^2
- (48/35) x^2
- (28/35) x^2
- (48/35) x^3

7) Simplify the following expressions

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

- (6 - 3y) / 8
- (3 - 2y) / 9
- (4 - 3y) / 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
- d
- b
- c

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
- d
- c

10) Simplify the following expressions

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

- (52p-41q) / 18
- (22p-41q) / 13
- (41p-21q) / 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/13
- -x/10
- x/14
- -x/12

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

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

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

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

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

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

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

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

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

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
- 9a/14
- 6a/19

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

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

- (-a + 11b) / 21
- (-a + 26b) / 15
- (-a + 13b) / 14
- (-a + 16b) / 10

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

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

- (12x-17) / 15
- (13x-15) / 12
- (14x-11) / 19
- (19x-19) / 21

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

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

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

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

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

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

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

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

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

21) Solve the following linear equations with rational coefficients

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

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

22) Solve the following linear equations with rational coefficients

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

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

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

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

- 3
- 9
- 2
- 5

25) Solve the following linear equations with rational coefficients

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

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

- 3/4

26) Solve the following linear equations with rational coefficients

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

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

27) Solve the following linear equations with rational coefficients

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

- 12
- 18
- 15
- 19

28) Solve the following linear equations with rational coefficients

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

- 3234
- 1331
- 2344
- 1245

29) Solve the following linear equations with rational coefficients

$$3\sqrt{x}=4$$

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

30) Solve the following linear equations with rational coefficients

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

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