

EXERCISES - ALGEBRAIC FRACTIONS

TUTORIAL SHEET - LESSON (5)

SIMPLIFY:

1) $\frac{x}{9} + \frac{4x}{9}$

11) $\frac{R+3}{2} + \frac{R-4}{5}$

2) $\frac{3a}{4} - \frac{a}{5}$

3) $\frac{b}{4} \times \frac{b}{3}$

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

4) $\frac{3m}{4} \div \frac{m}{2}$

5) $\frac{R}{3} + \frac{3R}{10}$

13) $\frac{5x-4}{3} - \frac{x-6}{2}$

6) $E - \frac{E}{2}$

EXPAND:

7) $\frac{E}{R} + \frac{R}{E}$

14) $(x+7)(x-2)$

15) $(x-8)(x-3)$

8) $\frac{3I}{4} - \frac{2I}{3}$

16) $(x+10)^2$

17) $(3x-1)(x+3)$

9) $\frac{3x}{4} \times \frac{2x}{5}$

18) $(4x-3)(3x-4)$

19) $(3x-5)^2$

10) $\frac{x+4}{3} + \frac{x}{5}$

20) $(2-3x)(3x+2)$

ANSWERS

① $\frac{5x}{9}$ ② $\frac{11a}{20}$ ③ $b^2/12$ ④ $3/2$ ⑤ $\frac{19R}{30}$ ⑥ $E/2$ ⑦ $\frac{E^2+R^2}{RE}$ ⑧ $I/12$ ⑨ $\frac{3x^2}{10}$

⑩ $\frac{8x+20}{15}$ ⑪ $\frac{7R+7}{10}$ ⑫ $\frac{x+12}{15}$ ⑬ $\frac{7x+10}{6}$ ⑭ $x^2+5x-14$ ⑮ $x^2-11x+24$ ⑯ $x^2+20x+100$

⑰ $2x^2+8x-3$ ⑱ $12x^2-25x+12$ ⑲ $9x^2-20x+25$ ⑳ $4-9x^2$

LESSON 8 - HW

FACTORISE COMPLETELY:

- (1) $a(c+4) + 5(c+4)$ (2) $3x + 3y + ax + ay$
 (3) $a^2 - ac + ab - bc$ (4) $2pq - pr + 6q^2 - 3qr$

SIMPLIFY:

- (5) $\frac{8a+8}{8}$ (6) $\frac{12x-6}{6}$ (7) $\frac{ax+ay}{2a}$

- (8) $\frac{x^2+x}{3x}$ (9) $\frac{24p-p^2}{4p}$ (10) $\frac{x^2-x}{x-1}$

- (11) $\frac{2m^2+mn}{2m+n}$ (12) $\frac{x^2-9}{x+3}$ (13) $\frac{x^2+5x+6}{(x+2)}$

SIMPLIFY

- (14) $\frac{x-3}{4} - \frac{x+1}{5}$ (15) $\frac{3}{x-1} + \frac{1}{x+1}$

- (16) $\frac{2x-1}{x+1} - \frac{x+2}{x}$ (17) $\frac{3}{x-4} - \frac{2}{x-1}$

ANSWERS

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|-----------------------------------------|-------------------------------|--------------------------------------|------------------|
| $\frac{a+c+4}{1}$ (1) | $\frac{(1+x)x}{2-x+2x-2}$ (6) | $\frac{3}{x-1}$ (1) | $(b+c)(a+d)$ (7) |
| $\frac{8a+8}{8}$ (5) | $\frac{(1-x)x}{2+x+2x}$ (5) | $\frac{3}{x-1} + \frac{1}{x+1}$ (15) | $(a-c)(b-d)$ (8) |
| $\frac{12x-6}{6}$ (6) | $\frac{x}{1-2x}$ (4) | $\frac{3}{x-1} + \frac{1}{x+1}$ (15) | $(a-c)(b-d)$ (8) |
| $\frac{ax+ay}{2a}$ (7) | $\frac{x}{1-2x}$ (4) | $\frac{3}{x-1} + \frac{1}{x+1}$ (15) | $(a-c)(b-d)$ (8) |
| $\frac{x^2+x}{3x}$ (8) | $\frac{x}{1-2x}$ (4) | $\frac{3}{x-1} + \frac{1}{x+1}$ (15) | $(a-c)(b-d)$ (8) |
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