

Daily Practice

19.1.16

- Q1. Simplify $m^7 \div m^3 = \frac{m^7}{m^3} = m^4$
 Q2. State the gradient of the line joining (-5, 2) and (3, 7)

$$m = \frac{7-2}{3-(-5)} = \frac{5}{8}$$

- Q3. Simplify $\sqrt{8+3\sqrt{2}} + \sqrt{50}$
 $\sqrt{4\sqrt{2}} + 3\sqrt{2} + \sqrt{25\sqrt{2}}$
 $2\sqrt{2} + 3\sqrt{2} + 5\sqrt{2} = 10\sqrt{2}$

- Q4. Simplify $m^2(m^2 - m^3)$
 $m^1 - m^2$

Today we will be completing a check-up on multiplying out and factorising.

PSP Target

- Surds and Indices :
 I can explain what a surd is.
 I can simplify surds.
 I can +/-/x/÷ surds.
 I can write fractions with a rational denominator.
 I can x/÷ terms with powers.

- Algebra :
 I can multiply out brackets and simplify.
 I can factorise using common factor, difference of 2 squares and trinomials.

Daily Practice

20.1.2016

- Q1. Multiply out and simplify $(2x - 1)(3x^2 + 7x - 8)$
 $6x^3 + 14x^2 - 16x - 3x^2 - 7x + 8$
 $6x^3 + 11x^2 - 23x + 8$
 Q2. Calculate the original cost of a bike that is now £240 in the sale with 15% off.

$$85\% = 240$$

$$1\% = 240 \div 85 = 2.8235$$

$$100\% = 2.8235 \times 100 = \underline{\underline{\pounds 282.35}}$$

- Q3. Calculate the area of an eighth of a circle with diameter 12cm

$$A = \pi r^2 = \pi \times 6^2 = 113.097\dots$$

$$\frac{1}{8} A = 113.097\dots \div 8 = \underline{\underline{14.14 \text{ cm}^2}}$$

- Q4. Factorise $2x^2 - x - 15$

$$(2x + 5)(x - 3)$$

L.I: Today we will be learning how to simplify algebraic fractions.

S.C: We will be able to simplify an algebraic fraction using our knowledge of factorising and simplifying.

Simplifying Algebraic Fractions

20.1.16

How do you simplify a fraction?

$$\frac{32}{36} \div 4 = \frac{8}{9}$$

How do you simplify a fraction in the form $\frac{12pq}{16p}$?

$$\frac{12pq}{16p} \div 4p = \frac{3q}{4}$$

$$\frac{3x+12}{15x-6} \div 3 = \frac{x+4}{5x-2}$$

$$\frac{x^2-4}{x^2-5x+6} = \frac{(x-2)(x+2)}{(x-3)(x-2)}$$

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

$$\frac{3p-12p^2}{9p^2} = \frac{3p(1-4p)}{9p^2} \div 3p$$

$$= \frac{1-4p}{3p}$$

Simplifying Algebraic Fractions

Same process as simplifying regular fractions

- First fully factorise numerator & denominator where possible.
- Divide top and bottom by the HCF (otherwise known as cancelling)

Examples: Simplify the following

(a) $\frac{20ab}{15a^2b} \div \frac{5ab}{5ab} = \frac{4}{3a}$

(b) $\frac{6x-4}{18x} = \frac{2(3x-2)}{18x} \div 2$
 $= \frac{3x-2}{9x}$

L1: Today we will be continuing to learn how to simplify algebraic fractions.

Daily Practice

22.1.2016

- Q1. Factorise fully $12x^2 - 3$
- Q2. Write with a rational denominator and fully simplify $\frac{4}{\sqrt{8}}$
- Q3. Multiply out and simplify $(x + 3)^2 + 2x$
- Q4. State the equation of the line joining $(-1, 3)$ and $(2, 5)$

Simplifying Algebraic Fractions

Simplify fully:

(c) $\frac{2x^2 - 12x}{x^2 - 4x - 12}$

(c) $\frac{x^2 - 49}{x^2 - 10x + 21}$

page 142 Ex.1B
Q2 onwards

Daily Practice

25.1.16

- Q1. Multiply out and simplify $(2x + 4)(x^2 + 3x - 5)$
 $2x^3 + 6x^2 - 10x + 4x^2 + 12x - 20$
 $2x^3 + 10x^2 + 2x - 20$
- Q2. Factorise $x^2 + x - 2$
 $(x - 1)(x + 2)$
- Q3. State the equation of the line that passes through $(0, 4)$ and $(3, 1)$
 $m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{1 - 4}{3 - 0} = \frac{-3}{3} = -1$
 $y = mx + c$
 $y = -1x + 4$
- Q4. Solve the equation $\frac{x}{5} - \frac{x+3}{2} = -3$
 $\times 10$
 $2x - 5x - 15 = -30$
 $-3x = -15$
 $x = 5$

Today we will be continuing to practise simplifying algebraic fractions.

Simplify $\frac{2x+2}{(x+1)^2}$.

Simplify $\frac{(2x+5)^2}{(2x-1)(2x+5)}$

Hence express $\frac{3y^2-6y}{y^2+y-6}$ in its simplest form.

$$\frac{b^2 - 4}{b + 2}$$

$$\frac{x^2 - 81}{x - 9}$$

$$\frac{q^2 - 9}{3q + 9}$$

$$\frac{x^2 - y^2}{5x - 5y}$$

$$\frac{x^2 + 3x + 2}{x + 1}$$

$$\frac{p - 1}{p^2 - 2p + 1}$$

$$\frac{a^2 - 1}{a^2 + 2a + 1}$$

$$\frac{c^2 + 2c - 15}{c^2 - 25}$$

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

$$\frac{y^2 + 6y + 8}{y^2 + y - 12}$$

$$\frac{2x^2 + 13x + 6}{x^2 + 9x + 18}$$

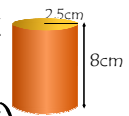
$$\frac{6a^2 - 13a - 5}{3a^2 - 11a - 4}$$

Daily Practice

26.1.16

Q1. Calculate the volume of the cylinder shown to 3 s.f.

$$V = \pi r^2 h = \pi \times 2.5^2 \times 8 = \underline{157.1 \text{ cm}^3}$$



Q2. Multiply out and simplify $(3x + 1)^2$

$$\begin{aligned} & (3x + 1)(3x + 1) \rightarrow 157 \text{ cm}^3 \text{ (3 s.f.)} \\ & 9x^2 + 3x + 3x + 1 \end{aligned}$$

Q3. Factorise $3x^2 - x - 10$

$$(3x + 5)(x - 2)$$

Q4. Simplify $\frac{k^2 \times 3k^3}{k^5} = \frac{3k^5}{k^5} = 3k^0 = \underline{3}$

L.I: Today we will be learning how to add/subtract algebraic fractions.

S.C: We will be able to add/subtract algebraic fractions.

Adding/Subtracting Algebraic Fractions

26.1.16

How do you add two fractions together?

$$\frac{x^8}{x^6} \times \frac{2}{3} + \frac{1}{6} \times \frac{x^3}{x^3} = \frac{16}{24} + \frac{3}{24} = \underline{\underline{\frac{19}{24}}}$$

What if the fractions had algebraic terms?

$$\begin{aligned} \frac{2}{a} + \frac{3b}{4} &= \frac{8}{4a} + \frac{3ab}{4a} \\ &= \underline{\underline{\frac{8+3ab}{4a}}} \end{aligned}$$

Adding/Subtracting Algebraic Fractions

Same process as adding/subtracting regular fractions.

- Find a common denominator
- Convert the fractions so that they have the same denominator
- Add/subtract them.
- Simplify where possible (at the end).

Adding/Subtracting Algebraic Fractions

Examples: Express as single fractions

(a) $\frac{3m}{5} + \frac{m}{4} = \frac{12m}{20} + \frac{5m}{20}$ (b) $\frac{3}{n^2} - \frac{5}{n} \quad n \neq 0$

$= \frac{17m}{20}$ $\frac{3}{n^2} - \frac{5n}{n^2} = \frac{3-5n}{n^2}$

(c) $\frac{a}{2b^2} + \frac{2a}{4b^3} = \frac{2ab}{4b^3} + \frac{2a}{4b^3}$

$b \neq 0$ $= \frac{2ab+2a}{4b^3} = \frac{ab+a}{2b^3} = \frac{a(b+1)}{2b^3}$

$\frac{2a}{3} + \frac{a}{5}$

$\frac{3m}{2} + \frac{4m}{3}$

$\frac{2}{a} - \frac{3}{a^2}$

$\frac{a}{b} + \frac{b}{a}$

$$\frac{5a}{b} - \frac{2a}{3b}$$

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

$$\frac{g}{6h} + \frac{5h}{9g}$$

Express as single fractions in their simplest form

- (a) $\frac{1}{2x} + \frac{1}{3x}$ $x \neq 0$
- (b) $\frac{2}{3p} - \frac{1}{4p}$ $p \neq 0$
- (c) $\frac{5}{3a} - \frac{1}{2a}$ $a \neq 0$
- (d) $\frac{2}{3x} + \frac{4}{5x}$ $x \neq 0$
- (e) $\frac{1}{x} + \frac{2}{x^2}$ $x \neq 0$
- (f) $\frac{3}{x^2} - \frac{2}{x}$ $x \neq 0$
- (g) $\frac{4}{m} - \frac{2}{m^3}$ $m \neq 0$
- (h) $\frac{6}{n^2} + \frac{1}{n^3}$ $n \neq 0$
- (i) $\frac{1}{2x} - \frac{1}{x^2}$ $x \neq 0$
- (j) $\frac{2}{p^3} - \frac{1}{3p}$ $p \neq 0$
- (k) $\frac{3}{4w} + \frac{2}{w^2}$ $w \neq 0$
- (l) $\frac{5}{3u} + \frac{1}{u^2}$ $u \neq 0$

Express as single fractions in their simplest form

- (a) $\frac{1}{2x} + \frac{1}{3x}$ $x \neq 0$
 $\frac{3}{6x} + \frac{2}{6x} = \frac{5}{6x}$
- (b) $\frac{2}{3p} - \frac{1}{4p}$ $p \neq 0$
 $\frac{8}{12p} - \frac{3}{12p} = \frac{5}{12p}$
- (c) $\frac{5}{3a} - \frac{1}{2a}$ $a \neq 0$
 $\frac{10}{6a} - \frac{3}{6a} = \frac{7}{6a}$
- (d) $\frac{2}{3x} + \frac{4}{5x}$ $x \neq 0$
 $\frac{10}{15x} + \frac{12}{15x} = \frac{22}{15x}$
- (e) $\frac{1}{x} + \frac{2}{x^2}$ $x \neq 0$
 $\frac{x}{x^2} + \frac{2}{x^2} = \frac{x+2}{x^2}$
- (f) $\frac{3}{x^2} - \frac{2}{x}$ $x \neq 0$
 $\frac{3}{x^2} - \frac{2x}{x^2} = \frac{3-2x}{x^2}$
- (g) $\frac{4}{m} - \frac{2}{m^3}$ $m \neq 0$
- (h) $\frac{6}{n^2} + \frac{1}{n^3}$ $n \neq 0$
- (i) $\frac{1}{2x} - \frac{1}{x^2}$ $x \neq 0$
 $\frac{x}{2x^2} - \frac{2}{2x^2} = \frac{x-2}{2x^2}$
- (j) $\frac{2}{p^3} - \frac{1}{3p}$ $p \neq 0$
- (k) $\frac{3}{4w} + \frac{2}{w^2}$ $w \neq 0$
- (l) $\frac{5}{3u} + \frac{1}{u^2}$ $u \neq 0$

Adding/Subtracting Algebraic Fractions

Express as a single fraction in its simplest form

(d) $\frac{2}{k} + \frac{2k-7}{k^2}$ $k \neq 0$

Daily Practice 27.1.16

Q1. Find the original value of a car that has depreciated by 15% and is now valued at £7649.99

$$85\% = 7649.99$$

$$1\% = 7649.99 \div 85 = 89.99\dots$$

$$100\% = 8999.99 \times 1.15$$

Q2. State the equation of the line joining (2, 5) and (4, -8)

$$y = mx + c$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{-8 - 5}{4 - 2} = \frac{-13}{2}$$

Q3. Simplify $\sqrt{160} = \sqrt{16 \times 10} = 4\sqrt{10}$

Q4. Simplify $\frac{5j^2 \times 4j}{2j^3} = \frac{20j^3}{2j^3} = 10$

$$y = -\frac{13}{2}x + 18$$

L1: Today we will be continuing to practise adding and subtracting fractions.

Adding/Subtracting Algebraic Fractions

(i) $\frac{3}{x-1} - \frac{x}{x-1}$ $x \neq 0, 1$

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

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

$$\frac{8x-4}{12} - 1 \left(\frac{3x-9}{12} \right)$$

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

(ii) $\frac{2x-1}{3} - \frac{x-3}{4}$

$$\frac{4(2x-1) - 3(x-3)}{12} = \frac{8x-4-3x+9}{12} = \frac{5x+5}{12}$$

Adding/Subtracting Algebraic Fractions

(iii) $\frac{3}{x+4} + \frac{2}{x-5}$ $x \neq -4, 5$

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

$$= \frac{3x-15+2x+8}{(x+4)(x-5)} = \frac{5x-7}{(x+4)(x-5)}$$

Pg. 145
Q2, 3, 5, 6, 7
8

Daily Practice 29.1.16

Q1. Calculate the area of the circle shown



Q2. Factorise $15x^2 - 5xy$

$$5x$$

Q3. Multiply out and simplify $(3m - 1)(2m + 4)$

Q4. Simplify $3x^2(2x + x^{\frac{1}{2}})$

Today we will be continuing to practise adding and subtracting algebraic fractions.

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

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

$$\frac{2}{y+2} + \frac{1}{y}$$

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

$$\frac{x-2}{4} + \frac{3x-1}{5x}$$

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

Prepare Solve

$$\frac{x+2}{x-4} = \frac{2x+1}{x-2}$$

$$\frac{x+2}{x-4} - \frac{2x+1}{x-2} = 0$$

$$(x+2)(x-2) - [2x+1)(x-4)] = 0$$

$$\begin{aligned} \frac{x}{4} &= 0 \\ x &= 0 \end{aligned}$$

L.I: Today we will be learning how to multiply algebraic fractions.

Daily Practice

1.2.2016

Q1. Multiply out and simplify $(3x - 1)(x + 4)$

$$3x^2 + 12x - x - 4$$

$$3x^2 + 11x - 4$$

Q2. Factorise $x^2 + 3x - 18$

$$(x + 6)(x - 3)$$

Q3. Multiply out and simplify $2x^2(x^2 - x^{-3})$

$$2x^5 - 2x^{-1} = 2x^5 - \frac{2}{x}$$

Q4. Write as a single fraction $\frac{3}{x+1} - \frac{x}{5}$ $x \neq -1$

$$\frac{15 - x(x+1)}{5(x+1)} = \frac{15 - x^2 - x}{5(x+1)}$$

Multiplying Algebraic Fractions

1.2.16

Follow the same process as multiplying regular fractions. Simplify where possible. You may be able to cancel terms before you multiply to make it easier.

Examples:

$$(i) \frac{15x^2}{4} \times \frac{2y}{3} = \frac{30x^2y}{12} = \frac{5x^2y}{2}$$

$$(ii) \frac{20gh}{7f} \times 5f^2 = \frac{20gh \cdot 5f^2}{7f \cdot 1} = \frac{100f^2gh}{7f} = \frac{100fgh}{7}$$

$$\frac{5}{4} \times \frac{2y}{3} = \frac{5 \cdot 2y}{4 \cdot 3} = \frac{10y}{12} = \frac{5y}{6}$$

Daily Practice

2.2.16

Q1. Multiply out and simplify $(3x - 4)(2x^2 + x - 5)$

$$Q2. \text{Simplify } \frac{2x-4}{4x^2-16} = \frac{6x^3 + 3x^2 - 15x - 8x^2 - 4x + 20}{6x^3 - 5x^2 - 19x + 20}$$

$$Q3. \text{Simplify } \sqrt{600} = \frac{2(x-2)}{4(x^2-4)} = \frac{2(x-2)}{4(x+2)(x-2)} = \frac{1}{2(x+2)}$$

$$Q4. \text{Write as a single fraction } \frac{2}{x} \times \frac{3}{y} = \frac{6}{xy} = \frac{1}{2(x+2)}$$

Today we will be learning how to divide algebraic fractions.

Homework online due Monday 8.2.16

Dividing Algebraic Fractions

Examples:

$$(i) \frac{v^2h}{9d} \div \frac{2v}{3d^2} = \frac{v^2h}{9d} \times \frac{3d^2}{2v}$$

$$= \frac{3d^2v^2h}{18dv} \stackrel{\div 3dv}{=} \frac{dvh}{6}$$

$$(ii) \frac{24xy}{35z} \div \frac{20xy}{21z} = \frac{24xy}{35z} \times \frac{21z}{20xy}$$

$$\stackrel{\div 4xy}{=} \frac{6}{5} \times \stackrel{\div 7z}{=} \frac{3}{5} = \frac{18}{25}$$

$$\frac{3}{5} \div \frac{7}{8}$$

$$\frac{3}{5} \times \frac{8}{7} = \frac{24}{35}$$



I can add and subtract algebraic fractions.

I can multiply & divide algebraic fractions and simplify where possible.

Daily Practice

3.2.16

Q1. Multiply out and simplify $(3x - 1)^2$

$$9x^2 - 6x + 1$$

Q2. Factorise $x^2 - 11x + 24$

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

Q3. Calculate the volume of a cone with diameter of base 16cm and height 12cm to 2 s.f.

$$V = \frac{1}{3} \pi r^2 h = \frac{1}{3} \times \pi \times 8^2 \times 12 = 804.2 \rightarrow 800 \text{ cm}^3 \text{ (2 s.f.)}$$

Q4. Simplify fully

$$\frac{(x-4)^2}{x^2 - 12x + 32} = \frac{(x-4)(x-4)}{(x-8)(x-4)} = \frac{x-4}{x-8}$$

L.I: Today we will be learning how to complete Exam style questions on Algebraic Fractions.

Homework Due Monday.

8. Simplify $\frac{8p^6}{2p^3 \times p}$. 3

9. Express $\frac{2}{(x-4)} + \frac{5}{x}$, $x \neq 0, x \neq 4$, as a single fraction in its simplest form. 3

7. Express as a single fraction *Marks*
 $\frac{a}{b} + \frac{b}{a}$, $a \neq 0, b \neq 0$. 2

8. Simplify $\frac{n^5 \times 10n}{2n^2}$. MARKS
3

9. Express $\frac{7}{x+5} - \frac{3}{x}$, $x \neq -5, x \neq 0$ as a single fraction in its simplest form. 3

7. Simplify $\frac{(x+4)^2}{x^2 - x - 20}$. 3

9. Simplify $\frac{x^6}{y^2} \times \frac{y^3}{x^3}$.

11. Express $\frac{3}{x+2} + \frac{5}{x-1}$, $x \neq -2, x \neq 1$ as a single fraction in its simplest form. 3

8. Simplify $\frac{3x-15}{(x-5)^2}$. 2

9. Express $\frac{3}{x} - \frac{4}{x+1}$, $x \neq 0, x \neq -1$ as a single fraction in its simplest form. 3

6. Express

$$\frac{f^2}{t} \times \frac{3t}{2s}$$

as a fraction in its simplest form.

2

Algebraic Fractions - Add/Subtract 2

www.mathsprint.co.uk

1: Simplify the following as far as possible:

a) $\frac{4}{v} - \frac{3}{v+1}$

b) $\frac{2}{3u-1} - \frac{1}{u}$

c) $\frac{1}{h} + \frac{5}{h-3}$

d) $\frac{2}{n+4} + \frac{5}{n}$

e) $\frac{4}{x} - \frac{5}{x-1}$

f) $\frac{2}{2r+3} - \frac{3}{r}$

2: Simplify the following as far as possible:

a) $\frac{2}{2f-1} + \frac{5}{2f+1}$

b) $\frac{5}{2t-3} + \frac{3}{t-2}$

c) $\frac{3}{q+2} + \frac{4}{q+3}$

d) $\frac{5}{e-4} - \frac{4}{3e+1}$

e) $\frac{3}{3y-2} - \frac{5}{3y+2}$

f) $\frac{2}{a+4} + \frac{3}{a-1}$

Algebraic Fractions - Multiply/Divide 1

www.mathsprint.co.uk

1: Simplify the following as far as possible:

a) $\frac{7}{8v} \times \frac{2}{5v}$

b) $\frac{3u}{5} \times \frac{7u}{9}$

c) $\frac{9}{10h} \times \frac{5h}{4}$

d) $\frac{7m}{4} \times \frac{3}{7m}$

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

f) $\frac{7}{6r} \times \frac{10}{3r}$

2: Simplify the following as far as possible:

a) $\frac{7}{10f} \div \frac{5f}{8}$

b) $\frac{6t}{5} \div \frac{3}{4t}$

c) $\frac{5q}{7} \div \frac{9q}{8}$

d) $\frac{5}{9e} \div \frac{8}{3e}$

e) $\frac{9}{2y} \div \frac{2y}{7}$

f) $\frac{10a}{9} \div \frac{5}{4a}$

2014 N5 Non-Calculator

8. Simplify $\frac{n^5 \times 10n}{2n^2}$.

$$\frac{10n^6}{2n^2} = \underline{\underline{5n^4}}$$

MARK 3

9. Express $\frac{7}{x+5} - \frac{3}{x}$ $x \neq -5, x \neq 0$ as a single fraction in its simplest form. 3

$$\frac{7x}{x(x+5)} - \frac{3(x+5)}{x(x+5)} = \frac{4x-15}{x(x+5)}$$

Today we will be continuing to practise mixed algebraic fractions.

Homework Due Monday!

Today we will be marking homework.

Homework Due Today

Q1. Write in their simplest form

$$(i) \frac{(x+4)(x+5)}{(x+4)^2} \quad x \neq -4 = \frac{\cancel{(x+4)}(x+5)}{\cancel{(x+4)}(x+4)} = \frac{x+5}{x+4} \checkmark$$

$$(i) \frac{5}{x} + \frac{3}{x^2} \quad x \neq 0$$

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

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

$$\frac{5x+3}{x^2} \checkmark$$

$$(ii) \frac{2}{a} - \frac{3}{(a+4)} \quad a \neq -4, 0$$

$$\frac{2(a+4)}{a(a+4)} - \frac{3a}{a(a+4)}$$

denominator

$$\frac{2a+8-3a}{a(a+4)}$$

$$= \frac{-a+8}{a(a+4)} \checkmark$$

$$(ii) \frac{(x+2)^2}{x^2-x-6} \quad x \neq -2, 3$$

$$\frac{(x+2)(x+2)}{(x-3)(x+2)}$$

$$= \frac{x+2}{x-3} \checkmark$$

$$(iii) \frac{5km-20m^2}{(k-4m)^2} \quad k, m \neq 0$$

$$\frac{5m(\cancel{k-4m})}{(\cancel{k-4m})(\cancel{k-4m})} \checkmark$$

$$= \frac{5m}{k-4m} \checkmark$$

$$(iii) \frac{a}{x} - \frac{b}{y} \quad x, y \neq 0$$

$$\frac{ay}{xy} - \frac{bx}{xy} \checkmark$$

$$\frac{ay-bx}{xy} \checkmark$$

$$(iv) \frac{4}{x+3} + \frac{3}{x} \quad x \neq -3, 0$$

$$= \frac{4x}{x(x+3)} + \frac{3(x+3)}{x(x+3)} \checkmark$$

$$= \frac{4x+3x+9}{x(x+3)}$$

$$= \frac{7x+9}{x(x+3)} \checkmark$$

$$(v) \frac{2x+1}{4} - \frac{x+2}{6}$$

$$\frac{3(2x+1)}{12} - \frac{2(x+2)}{12} \checkmark$$

$$\frac{6x+3}{12} - \left(\frac{2x+4}{12} \right)$$

$$= \frac{4x-1}{12} \checkmark$$

$$(vi) \frac{x}{(x+1)} - \frac{3}{(x-4)} \quad x \neq 4, -1$$

$$\frac{x(x-4)-3(x+1)}{(x+1)(x-4)} \checkmark$$

$$= \frac{x^2-7x-3}{(x+1)(x-4)} \checkmark$$

$$(vii) \frac{s^2}{t} \times \frac{3t}{2s} \quad t, s \neq 0$$

$$\frac{3ts^2}{2ts} = \frac{3s}{2}$$

$$(viii) \frac{5p^2}{8} \div \frac{p}{2}$$

$$\frac{5p^2}{8} \times \frac{2}{p}$$

$$= \frac{10p^2}{8p} \div 2p = \frac{5p}{4}$$

$$(ix) \frac{3x}{y} \times \frac{2x+4}{x^2} \quad y, x \neq 0$$

$$\frac{6x^2+12x}{x^2y}$$

$$= \frac{6x+12}{xy}$$

$$(x) \frac{8y}{2x} \div \frac{4y}{x^3} \quad x \neq 0$$

$$\frac{8y}{2x} \times \frac{x^3}{4y}$$

$$\frac{8x^3y}{8xy} \div 8xy = x^2$$

Daily Practice 5.2.16

Q1. Calculate the radius of a cylinder with a volume of 7288.16cm^3 and a height of 9cm

Q2. Multiply out and simplify $(7x - 1)(x^2 - 3x + 4)$

Q3. Factorise $6x^2 + 7x - 20$

Q4. Write as a single fraction $\frac{2}{x+2} - \frac{x}{3}$

Today we will be completing a check-up on algebraic fractions.

Please leave jotters here.

HW due Monday