3. Express the following inequality statements algebraically:

(a) w is more than 37, [1]

(b) x is smaller than twice y, [1]

(c) z is at least 23. [1]

3. Copy the statements below.

Then write the symbol $<$, $>$ or $=$ in each space to make each statement correct.

(a) 3^2 _____ 2^3 [1]

(b) 3^0 _____ 2^0 [1]

(c) 3^{-1} _____ 2^{-1} [1]

3. (a) Write the following in standard form (scientific notation).

(i) 7,564,000,000,000 [1]

(ii) 0.0000918 [1]

(b) Jupiter has a volume of approximately $1.43 \times 10^{15} \text{km}^3$.
The volume of Neptune is approximately $6.25 \times 10^{13} \text{ km}^3$.
How many times bigger is Jupiter than Neptune? Give your answer in standard form. [2]

3. Simplify:

(a) $\frac{x}{5} + \frac{7x}{3}$ [2]

Fraction after applying Lowest Common Denominator

—— + ——

Simplified Fraction

———

(b) $\frac{45g}{8} \div \frac{15g^2}{24}$ [3]

Fraction after applying Reciprocal

—— × ——

Simplified Fraction

———

LIVEWORKSHEETS

3. There are several t-shirts on a rack in a store.

$\frac{2}{3}$ are white.

$\frac{1}{8}$ are pink.

All the remaining t-shirts are blue.

(a) Find the fraction of t-shirts that are blue. [2]

Fraction of Non Blue Shirts

—— + —— = ——

Fraction of Blue Shirts

1 – —— = ——

There are 20 blue t-shirts on the rack.

(b) Find the total number of t-shirts on that rack. [2]

3. Shay is paid $2,520 per month.

She pays the following bills:

- $650.00 rent monthly
- $210.00 utilities monthly
- $140.00 groceries weekly

(a) For a month with four weeks, determine how much money is left after all these bills are paid. [3]

Total Spent = $

Total Remaining Funds = $

She sets aside 15% of her remaining pay for entertainment.

(b) Calculate her entertainment budget per month. [1]

3. The centre of the Milky Way galaxy is 25,800 light-years from Earth.

1 light-year = 9.461×10^{12} kilometres.

For this problem give all answers in standard form correct to three significant figures.

(a) Find the distance in kilometres (km) between the Earth and the centre of the Milky Way. [2]

Distance before Rounding = × 10

Distance after Rounding = × 10

LIVEWORKSHEETS

The fastest speed obtained by a man-made spacecraft is 586,000 km/h.

(b) Find the time in hours needed to travel one light-year. [3]

Time before Rounding = × 10

Time after Rounding = × 10

LIVEWORKSHEETS