

# WEEK ONE TUTORIAL QUESTIONS

These are optional practice questions.

1.  $3 \times 4 + 2 = 12 + 2 = 14$
2.  $3 + 4 \times 2 = 3 + 8 = 11$
3.  $(3 + 4) \times 2 = 7 \times 2 = 14$
4.  $5 \times 3 - 2 \times 4 = 15 - 8 = 7$
5.  $20 \div 4 + 1 = 5 + 1 = 6$
6.  $20 \div (4 + 1) = 20 \div 5 = 4$
7.  $4 - 6 \div 2 + 3 \times 5 - 12 \div 3 = 4 - 3 + 15 - 4 = 12$
8. Insert one of  $< > \leq \geq =$  to make the following true:
  - a)  $3 < 5$
  - b)  $7 > 3$
  - c)  $-1 < 5$
  - d)  $-4 > -8$
  - e)  $3 < 7$
  - f)  $7 > -7$

9. Simplify the following:

- a)  $|6| = 6$
- b)  $|-9| = 9$
- c)  $-|7| = -7$
- d)  $-|3 - 7| = -4$

10. Write 45 as a product of its prime factors.

$$3 \times 3 \times 5$$

11. Evaluate the following:

- a)  $\frac{1}{2} \times \frac{2}{3} = \frac{2}{6} = \frac{1}{3}$
- b)  $\frac{3}{8} \times \frac{1}{3} = \frac{3}{24} = \frac{1}{8}$
- c)  $\frac{5}{8} \div \frac{1}{2} = \frac{5}{8} \times \frac{2}{1} = \frac{10}{8} = \frac{5}{4} (= 1\frac{1}{4})$
- d)  $\frac{7}{8} \div \frac{2}{3} = \frac{7}{8} \times \frac{3}{2} = \frac{21}{16} (= 1\frac{5}{16})$
- e)  $\frac{1}{2} + \frac{2}{3} = \frac{3}{6} + \frac{4}{6} = \frac{7}{6} (= 1\frac{1}{6})$
- f)  $\frac{7}{8} - \frac{2}{3} = \frac{21}{24} - \frac{16}{24} = \frac{5}{24}$
- g)  $\frac{1}{2} + \frac{5}{8} \times \frac{2}{3} = \frac{1}{2} + \frac{10}{24} = \frac{12}{24} + \frac{10}{24} = \frac{22}{24} = \frac{11}{12}$

12. Evaluate the following:

- a)  $2^5 = 2 \times 2 \times 2 \times 2 \times 2 = 32$
- b)  $3^4 = 3 \times 3 \times 3 \times 3 = 81$
- c)  $1^{12} = 1$
- d)  $(-2)^3 = -2 \times -2 \times -2 = -8$
- e)  $4^2 + 2^3 - 3^{(1/2 \times 4)} = 16 + 8 - 3^2 = 15$