Foundation Mathematics 1017SCG
Week 1 Workshop Questions

1. Evaluate the following. (Remember the correct order of operations)

    (a) $12 - 1 - 8$

    (b) $20 - 3^2$

    (c) $4 + 10 \div 2 - 7$

    (d) $6^2 + (10 + 5) \div 3$

    (e) $(1 + 5) \times (15 - 6)$

    (f) $(3 + (-2)^2) \times -6$

    (g) -4^2

    (h) $5^2 - 3^2 + 2^2$

    (i) $60 \div 5 \div 3$

    (j) $100 - 2 \times 5 \times 7$

    (k) 1.876×10^3

2. Simplify the following. In your final answer, only include positive indices/powers. (No negative indices/powers in your final answer).

    (a) $4x^3 \times 2x^5$

    (b) $9x^2y^3 \times 5xy^4$

    (c) $\dfrac{8x^5}{10x^2}$

    (d) $\dfrac{12x^6y^2}{16x^3y^7}$

    (e) $x^2 \times (3x^2)^3$

    (f) $x^3y \times (2xy^4)^2$

    (g) $(16x^4y^6)^{\frac{1}{2}}$

    (h) $\left(\dfrac{4x^2}{y^3}\right)^{-2}$

3. Round the following numbers to the specified number of decimal places.

    (a) 3.1248 to 1 decimal place

    (b) 2.8942 to 1 decimal place

    (c) 12.7962 to 2 decimal places

    (d) 36.0196 to 2 decimal places

4. Write the following in scientific notation.

    (a) 870,000

    (b) 23,400

    (c) 4,500,000

    (d) 0.007

    (e) 0.00004

(f) 0.00059

5. Write the following in standard form.

    (a) 3.5×10^3

    (b) 9×10^6

    (c) 5.71×10^2

    (d) 4×10^{-3}

    (e) 8.15×10^{-5}

    (f) 9.2×10^{-6}

6. Using your calculator, evaluate the following. Give your answer in standard form.

    (a) $5.61 \times 10^4 + 3.2 \times 10^5$

    (b) $2.8 \times 10^{-5} + 9.31 \times 10^{-4}$

7. Simplify the following by combining into a single fraction. Leave your answer as an exact value. (Your final answer should contain a 'π'. If you use your calculator, it will round your answer and it will no longer be exact).

    (a) $3\pi + 5\pi$ \qquad (Hint: 3 apples + 5 apples = 8 apples)

    (b) $2\pi - \dfrac{\pi}{3}$ \qquad (Hint: Common denominator)

    (c) $\pi + \dfrac{5\pi}{6}$

    (d) $2\pi - \dfrac{\pi}{6}$

    (e) $\pi - \dfrac{\pi}{4}$

8. Simplify the following. Use only positive indices/powers in your final answer.

    (a) $\dfrac{6x^2y^3}{x^4} \times \dfrac{x^4}{3y}$

    (b) $\dfrac{10xy^6}{4x^3y^2} \times \dfrac{x^2y^4}{x^3}$

    (c) $\dfrac{10x^2y}{x^3} \div \dfrac{15y^5}{x^4}$

    (d) $\dfrac{x^5z^3}{2y^4} \div \dfrac{x^3z^3}{4x^2y^2}$

9. *This question ensures that you have accurate information about Foundation Mathematics and how it will run this trimester. Questions similar to the following will NOT be asked on assessment items.*
   Answer the following regarding Foundation Mathematics this trimester.

    (a) At the end of trimester when School Assessment Board is determining final grades, what grades are possible in Foundation Mathematics?

    (b) To be eligible for a non-graded pass (NGP) at the end of the trimester, what is the minimum overall percentage required (applying the appropriate weightings for each assessment item)?