

## **Operations and Calculations**

### **Notes**

- **Order of Operations and Inverse Operations:**

- **Number Bases:**

**Discussion Questions**

1. Select the pair of numbers that are closest to each other on the number line.  
a)  $\frac{1}{2}$  and  $\frac{7}{8}$    b)  $\pi$  and  $\sqrt{2}$    c)  $-2$  and  $-2\frac{1}{2}$    d)  $-\frac{1}{2}$  and  $\frac{1}{4}$    e)  $-\frac{3}{4}$  and  $\frac{1}{16}$
2. How many integers are there between  $6 \times 10^{98}$  and  $5 \times 10^{100}$  exclusive (meaning not counting  $6 \times 10^{98}$  and  $5 \times 10^{100}$ )?

3. Evaluate  $\sqrt[8]{\left(5\left(\frac{\sqrt{2.1^2}}{5}\right)\right)^8}$ .

4. What digit is in the ones place of  $3^{90}$ ?

*M7 Stage 2 Class 19 Handout*

5. Convert each of the following numbers in other bases to base ten (our usual decimal value). What digit is in the ones place?

a)  $23_{\text{five}}$

b)  $1011_{\text{two}}$

c)  $23587_{\text{nine}}$

6. Convert the decimal value of 35 to base 6? How about the decimal value of 135 to base 2?

**Practice Questions**

7. If 27,720 is the least whole number that is evenly divisible by the first 12 counting numbers, what is the least whole number that is evenly divisible by the first 15 counting numbers?

8. What is the remainder when the product  $3486 \times 9111 \times 7632 \times 8043$  is divided by 5?

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**\*\*9.** How many even 4-digit whole numbers have a one's digit that is the sum of the other three digits in the number? (Here's one example: 1416. No 4-digit number begins with 0.)