DECIMAL ADDITION & SUBTRACTION

FACT 1: **To add decimals, arrange them in columns such that their decimal points line up. Then add by column as before.**

```
  0 . 0 8              0 . 0 8 0 0
  0 . 3                0 . 3 0 0 0
  0 . 0 0 0 9          0 . 0 0 0 9
  0 . 8 0 3            0 . 8 0 3 0
+ 0 . 0 5            + 0 . 0 5 0 0
_____          _____
                       1 . 2 3 3 9
```

FACT 2: **The sum may be rounded to a desired number of decimal places, depending on the required accuracy.**

To round a decimal number to n decimal places, check the digit at $(n+1)^{th}$ decimal place. If that digit is 5 or greater, increase the nth digit by 1. If not, make no changes.

Round **3.141592**   to 4 decimal places   →   **3.1416**
Round **5.2764017** to 2 decimal places   →   **5.28**
Round **8.372945**   to 2 decimal places   →   **8.37**

FACT 3: **To subtract decimals, arrange them in columns such that their decimal points line up. Then subtract by column as before.**

We may imagine a trailing zero placed at the end of the minuend.

```
  1 1 . 0 0 1 0           4 . 1 8 3 5
 −    4 . 0 0 2 8        − 2 . 0 3 7 1 6
 _____        _____
      6 . 9 9 8 2          2 . 1 4 6 3 4
```

FACT 4: **Carry out operation to higher accuracy then desired, and then round up to desired accuracy.**

Find the difference correct to two decimal places.

56.0 - 0.0089367   =   56.0 – 0.009   =   55.991   =   55.99

1. **Add the following and round the sum to 2 decimal places.**
   (a) 0.321, 0.653   (c) 0.5492, 0.355   (e) 0.648, 0.02, 1.006

   Answer: (a) 0.97 (b) 0.90 (c) 1.67

2. **Subtract (accurate to three decimal places)**
   (a) 3.1233 from 4.56   (c) 0.4761 from 3   (e) 3.001004 from 4.62

   Answer: (a) 1.437 (b) 2.524 (c) 1.619

End of Lesson