**. Decimal Places & Significant Figures .**

|  |  |
| --- | --- |
| **There are two ways to Round a number to a sensible answer** | |
| **Rounding to Decimal Places (dp)** | **Rounding to Significant Figures (sf)** |
| **Count decimal places right from the decimal point** | **Count Significant figures from the first digit in the number (unless placeholder zeros)** |
| **8.245 has 3dp** | **8.245 has 4sf** |
| **15.2479 has 4dp** | **15.2479 has 6sf** |
| **400 has 0 dp** | **400 has 1sf** |
| **34 000 has 0dp** | **34 000 has 2sf** |
| **0.0023 has 4dp** | **0.0023 has 2sf** |
| **120.00459 has 5dp** | **120.00459 has 8sf** |
| **42.0 has 1dp** | **42.0 has 3sf (0 shouldn't be there so it must be important)** |

**. Rounding Rules .**

**A rounded number has about the same value as the number you start with, but it is less exact.**

**eg. 341 rounded to the nearest hundred is 300.   
 (341 is closer in value to 300 than to 400).**

**eg. To the nearest dollar, $1.89 becomes $2.00  
 ($1.89 is closer to $2.00 than to $1.00)**

**Rules for Rounding**

**Here's the general rule for rounding:**

**\*\*If the number you are rounding is followed by 5, 6, 7, 8, or 9, round the number up. Eg. 38 rounded to the nearest ten is 40**

**\*\*If the number you are rounding is followed by 0, 1, 2, 3, or 4, round the number down. Eg. 33 rounded to the nearest ten is 30**

**4,827 rounded to the nearest ten is 4,830   
4,827 rounded to the nearest hundred is 4,800   
4,827 rounded to the nearest thousand is 5,000**

**. Rounding Examples .**

|  |  |
| --- | --- |
| **Round 1.242826 to 2dp** | **Round 1.242826 to 2sf** |
| **1.24|2826 cut number at 2dp** | **1.2|42826 cut number at 2sf** |
| **1.24|2 Use the next digit to round** | **1.2|4 Use the next digit to round** |
| **1.24|2 rounds down so leave the 4** | **1.2|4 4 rounds down so leave the 2** |
| **= 1.24 (2dp)** | **= 1.2 (2sf)** |
|  |  |
| **Round 0.03845 to 2dp** | **Round 0.03845 to 2sf** |
| **0.03|845 cut number at 2dp** | **0.038|45 cut number at 2sf** |
| **0.03|8 Use the next digit to round** | **0.038|4 Use the next digit to round** |
| **0.03| 8 rounds up so round the 3 up** | **0.038| 4 rounds down so leave the 8** |
| **= 0.04 (2dp)** | **= 0.038 (2sf)** |
|  |  |
| **Round 1289.98 to 1dp** | **Round 1289.98 to 2sf** |
|  |  |

**. Rounding Practice .**

**Round the following:**

**1) 4.2675 (1dp) =**

**2) 0.00468 (3dp) =**

**3) 9.98275 (1dp) =**

**4) 5.3 × 12.47 (2dp) =**

**5) 43.25 ÷ 0.77 (3dp) =**

**6) 28 457 (2sf) =**

**7) 486 235 (1sf) =**

**8) 0.0002873 (2sf) =**

**9) 46 × 32.8 (3sf) =**

**10) 0.284 ÷ 53.6 (2sf) =**

**11) Calculate the area of a circle (A = πr2) if the radius is 6.25m (3sf)**

**12) Calculate the volume of a cone with radius 2.4cm and height 5.6cm (2sf)**

**. Rounding Practice A . . Rounding Practice B .**

**Round the following: Round the following:**

**1) 3.2837 (1 dp) = \_\_\_\_\_\_\_\_**

**2) 6.23984 (2 dp) = \_\_\_\_\_\_\_\_**

**3) 0.03845 (3 dp) = \_\_\_\_\_\_\_\_**

**4) 123.925 (1 dp) = \_\_\_\_\_\_\_\_**

**5) 0.50505 (2 dp) = \_\_\_\_\_\_\_\_**

**6) 0.00289 (2 dp) = \_\_\_\_\_\_\_\_**

**7) 3.2 × 6.5 (1 dp) = \_\_\_\_\_\_\_\_**

**8) 7.74 × 3.5 (1 dp) = \_\_\_\_\_\_\_\_**

**9) 7.3 ÷ 9 (2 dp) = \_\_\_\_\_\_\_\_**

**10) 5.9 ÷ 0.11 (2 dp) = \_\_\_\_\_\_\_\_**

**1) 3245 (1 sf) = \_\_\_\_\_\_\_\_**

**2) 685 274 (2 sf) = \_\_\_\_\_\_\_\_**

**3) 0.002885 (2 sf) = \_\_\_\_\_\_\_\_**

**4) 123.925 (2 sf) = \_\_\_\_\_\_\_\_**

**5) 0.05165 (2 sf) = \_\_\_\_\_\_\_\_**

**6) 289 090 (2 sf) = \_\_\_\_\_\_\_\_**

**7) 6.2 × 62.3 (2 sf) = \_\_\_\_\_\_\_\_**

**8) 7844 × 25 (3 sf) = \_\_\_\_\_\_\_\_**

**9) 17.4 ÷ 7 (2 sf) = \_\_\_\_\_\_\_\_**

**10) 0.09 ÷ 23 (2 sf) = \_\_\_\_\_\_\_\_**