UNIT 4   *Rounding and Estimating*   Overhead Slides

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OS 4.1   *Calculations*

1. Calculate 82.4 + 3.62

2. Calculate 27.5 − 16.7

3. Calculate 3.2 × 1.27

4. Calculate 5.6 ÷ 0.4

OS 4.2   *Order of Operations*

B	Brackets
O	Powers
D	Division
M	Multiplication
A	Addition
S	Subtraction

Calculate:

1. $(4 + 7) \times 3 - 4$

2. $3 + 7 \times 3 - 18 \div 3$

3. $6 \div 2 + 4 - 8 \times 3 + 1$

4. $30 \div (3 + 2) - (4 + 7) \times 6$

5. $(18 - 4) \div (4 + 3) - 6 \times 2$

OS 4.3   *True or False?*

Is each of the following statements *true* or *false*?

For those that are *false*, give the correct answers.

1. $3 \times 6 + 2 = 24$

2. $4 - 6 \times 2 = -4$

3. $8 \times 2 + 70 \div 2 = 51$

4. $18 + 9 \times 2 + 7 = 99$

5. $5 \times 7 - 20 \div 2 = 7.5$

6. $8 \times 3 - 2 + 9 \div 2 = 17.5$

7. $6 \times (4 + 7) - 3 \times 2 + 6 = 132$

8. $8 - 6 \div 4 + 5 = \dfrac{2}{9}$

Describe how you could use brackets to make *all* the statements true.

OS 4.4   *Equivalent Expressions*

Match an expression from *Column A* to one in *Column B* which has the same answer.

The first one has been done for you.

Column A	*Column B*
(a) $(4 + 2) \times 3$	(i) $4 \times 3 - 2 \times 3$
(b) $(4 - 2) \times 3$	(ii) $81 \div 9 - 18 \div 9$
(c) $(18 + 6) \div 6$	(iii) $4 \times 3 + 2 \times 3$
(d) $(18 - 6) \div 6$	(iv) $11 \times 10 - 6 \times 10$
(e) $(11 + 6) \times 10$	(v) $81 \div 9 + 18 \times 9$
(f) $(11 - 6) \times 10$	(vi) $18 \div 6 + 6 \div 6$
(g) $(81 + 18) \div 9$	(vii) $11 \times 10 + 6 \times 10$
(h) $(81 - 18) \div 9$	(viii) $18 \div 6 - 6 \div 6$

(a) is matched to (iii).)

OS 4.5   *Problems in Context*

1.   A packet of sweets costs 49p. Sally buys 9 packets of sweets to give out at her birthday party. How much change does she get from a £5 note?

2.   A window cleaner charges £4.25 plus 75p for each window. How much does he charge to clean the windows of a house with:

   (a)   7 windows,

   (b)   12 windows,

   (c) n windows?

OS 4.6

Rounding

Complete the following table, rounding the numbers to the degree of accuracy stated.

| d.p. means 'decimal place(s)' |
| s.f. means 'significant figure(s)' |

Number	Rounded Number	Accuracy
3.35		1 d.p.
4.721		1 s.f.
360.25		1 d.p.
11.917		2 d.p.
80.246		3 s.f.
33.565		4 s.f.
19.502		2 s.f.
141.499		1 d.p.
162.83		2 s.f.
574.6		1 s.f.
0.004631		2 s.f.

OS 4.7

Significant Figures

Write each number to the stated number of *significant figures.*

Number	3 s.f.	2 s.f.	1 s.f.
4253	4250	4300	4000
2515			
2087			
9986			
2198			
1009			
13 004			
189 997			
1 993 349			

OS 4.8

Estimating

Complete the following table:

Problem	Estimation Method	Estimate	Actual Answer to 3 s.f. from Calculator
6.8×4.3			
$\dfrac{8.2 \times 9.6}{2.1}$			
$\dfrac{3.4 + 8.2}{9.61 - 4.68}$			
$\dfrac{9.8 \times 7.4}{3.5 + 4.42}$			
$\dfrac{116 \times 3461}{984 - 623}$			

OS 4.9   *Calculator Problems*

Carry out the following calculations on your calculator.

You may need to use bracket or memory keys.

1. $3.6 \times (4.2 + 3.8) =$

2. $\dfrac{6.2 + 7.3}{4.2} =$

3. $\dfrac{8.2 + 5.9}{11.6 - 2.4} =$

4. $3 \times 4 + 5 \times 3 =$

5. $8.6 - \dfrac{7.2 + 3.4}{3.1} =$

6. $\dfrac{3.6 \times 3.5 - 7.4}{8 + 5.2 \times 9.2} =$