Common errors: Arithmetic

Common error 1

Failure to keep numbers in straight columns.

```
  3 2 86
+ 4 32 7 1
  512 36
```

This leads to numerous errors

Common error 2

Failure to carry numbers.

```
  2  3  8
+ 1  4  7
  3  7 (1) 5
```

Number placed in answer instead of being ‘carried’

Common error 3

```
  2  3  5
+ 1  2  7
  3  5  2
```

Pupil forgets to carry
5 + 7 = 12

A good way to remember to carry the number is to write it in a circle.

```
  2  3  5
+ 1  2  7
  3  6  2
     (1)
```

Common error 4

```
  8  6  2
– 3  2  5
  5  4  3
```

Pupil does 5 – 2 instead of 2 – 5

Remember 2 take-away 5 you can’t so borrow from the 60.

Common error 5

```
  6  1
  7  0  3
– 2  6  7
        6
```

Numerous different errors occur in subtraction when there are noughts on the top line.

Common error 65

Question: This table shows the number of loaves of bread delivered to houses in a street:

Number of loaves	0	1	2	3	4
Number of houses	3	4	5	1	3

Calculate the mean number of loaves per house.

This question produces several errors:

Error A 3 x 0 = 3

Error B $\dfrac{\text{Number of loaves}}{\text{Number of houses}} = \dfrac{0 + 1 + 2 + 3 + 4}{3 + 4 + 5 + 1 + 3}$

Error C $\dfrac{\text{Number of loaves}}{\text{Number of houses}} = \dfrac{0 + 1 + 2 + 3 + 4}{5}$

Common error 66

Question: What is the probability of choosing a red ball from a bag containing two red balls and three blue balls?

All of the following answers are wrong:

2 out of 5 2 in 5	Probability should not be expressed in words
2:5 2:3 3:2	Probability should not be expressed as a ratio
40	Probability written as a percentage must have a percentage sign (40% would be acceptable)

Probability should be written as a fraction or a decimal. If it is written as a percentage the % sign must be shown.

Common error 67

Question: David and John compete in a race.
Adam says There are two people in the race therefore David's chances of winning is $^1/_2$
Is Adam correct? Explain your answer.

Many pupils would state that they agree with Adam but this is **wrong**. It is highly unlikely that both boys are equal in ability.

Basic numeracy – 1

Speed mark | **Error**

1 2684 + 37 124 + 6281 + 10 273

2 7384 + 2631 + 573 + 4721

1

3 8136 + 2714 + 138 + 57 136

4 11 372 + 1682 + 4735 + 27 913

5
$$\begin{array}{r} 378 \\ +\ 119 \\ \hline \end{array}$$

6
$$\begin{array}{r} 526 \\ +\ 138 \\ \hline \end{array}$$

2/3

7
$$\begin{array}{r} 783 \\ +\ 129 \\ \hline \end{array}$$

8
$$\begin{array}{r} 578 \\ +\ 389 \\ \hline \end{array}$$

9
$$\begin{array}{r} 783 \\ -\ 256 \\ \hline \end{array}$$

10
$$\begin{array}{r} 834 \\ -\ 115 \\ \hline \end{array}$$

4

11
$$\begin{array}{r} 832 \\ -\ 369 \\ \hline \end{array}$$

12
$$\begin{array}{r} 735 \\ -\ 149 \\ \hline \end{array}$$

13
$$\begin{array}{r} 803 \\ -\ 275 \\ \hline \end{array}$$

14
$$\begin{array}{r} 6808 \\ -\ 4209 \\ \hline \end{array}$$

5

15
$$\begin{array}{r} 5080 \\ -\ 2691 \\ \hline \end{array}$$

16
$$\begin{array}{r} 3002 \\ -\ 814 \\ \hline \end{array}$$

Speed mark **Error**

Handling data

1 This table shows the number of television sets in 30 houses:

1 0 3 3 2 2 1 2 3 2
4 1 3 2 2 1 1 1 2 3
3 1 2 4 0 1 2 1 1 3

Number of TV's	Tally	Frequency
0		
1		
2		
3		
4		

Place the information into the frequency table.

2 This table shows the number of people travelling in some cars:

2 1 2 3 4 3 1 2 3 4
1 2 2 3 2 1 3 2 2 2
2 4 2 2 3 2 1 3 1 2
1 3 4 2 1 3 2 1 1 2

Number of people	Tally	Frequency
1		
2		
3		
4		

Place the information into the frequency table.

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3 This table shows the number of people in a cinema over a period of 24 days:

136 87 125 182 191 77
171 103 168 72 88 158
88 92 120 132 167 89
121 117 81 143 151 173

Number of people	Tally	Frequency
50-99		
100-149		
150-200		

Place the information into the frequency table.

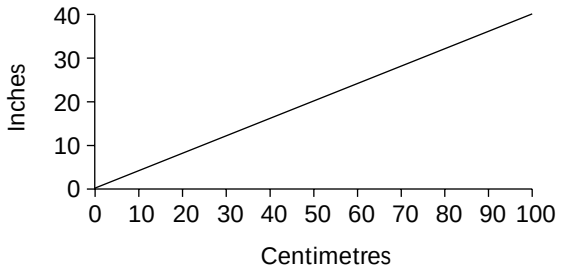
4 This table shows the number of drawing-pins in some packs:

68 82 77 91 92 77 89 68
71 82 67 87 63 71 93 84
63 64 66 71 82 74 72 63
98 73 94 68 85 65 68 72

Number of pins	Tally	Frequency
60-69		
70-79		
80-89		
90-99		

Place the information into the frequency table.

This conversion graph converts centimetres to inches.
Use the graph to answer these questions:



5 Convert 2 inches to centimetres.

6 Convert 400 inches to centimetres.

7 Convert 250 centimetres to inches.

8 Convert 750 centimetres to inches.

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