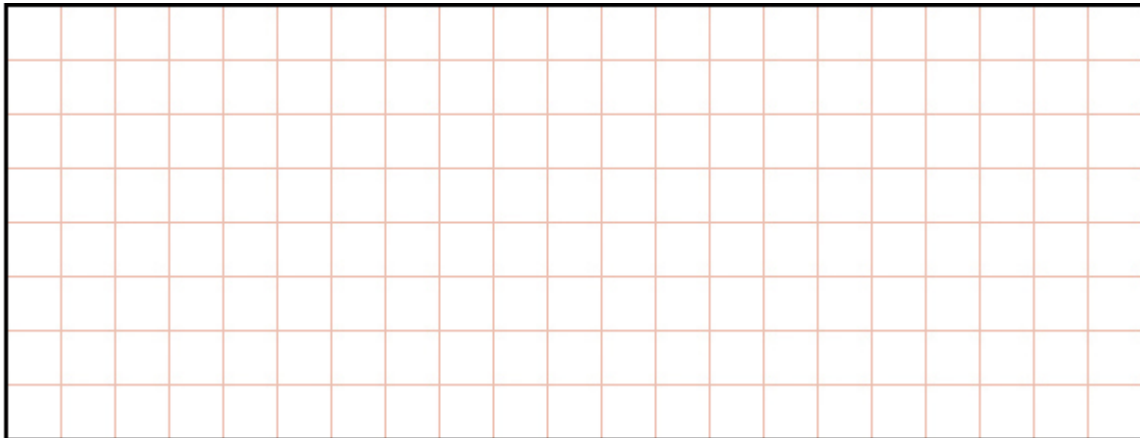


3. $509 \div 14 =$



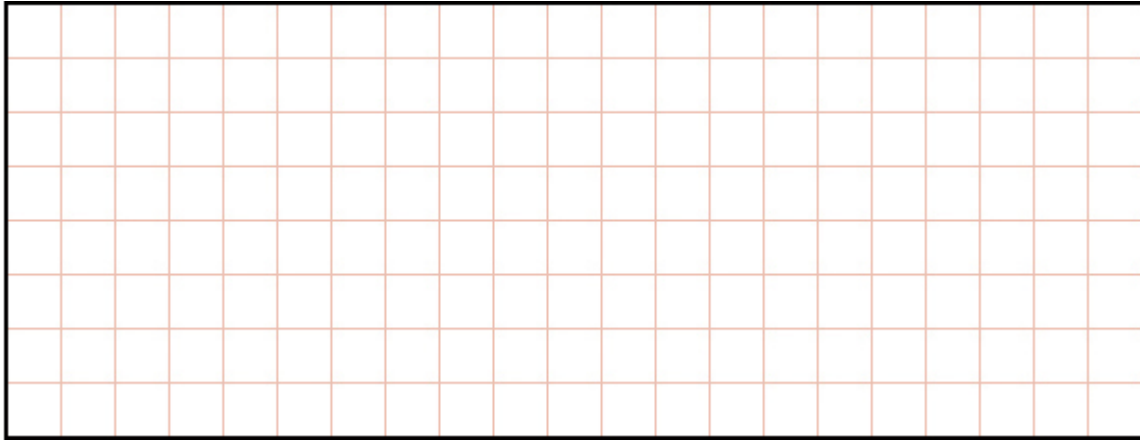
1 mark

4. $968 \div 32 =$



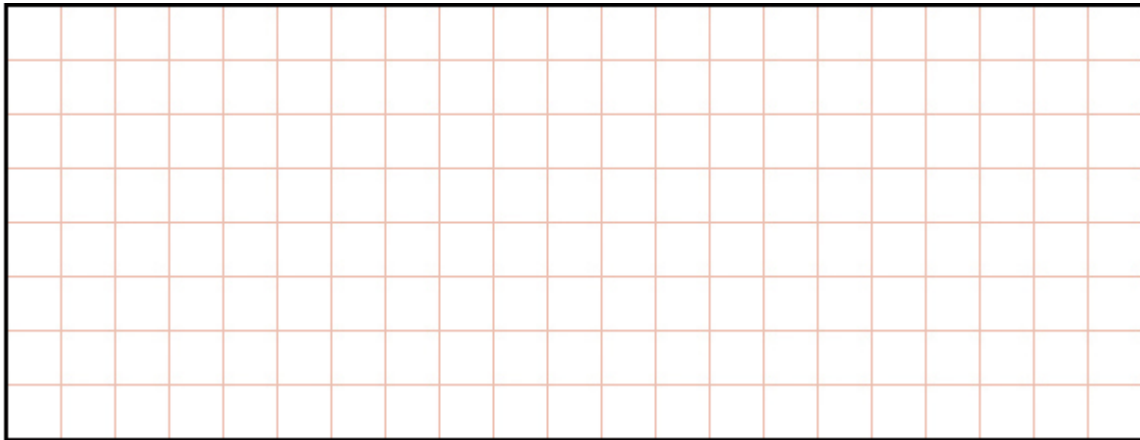
1 mark

5. $872 \div 34 =$



1 mark

6. $968 \div 23 =$



1 mark

10. $16 \overline{)848}$

Show your method	<div style="border: 1px solid black; width: 150px; height: 30px; margin: 0 auto;"></div>
------------------------	--

2 marks

11. $27 \overline{)6849}$

Show your method	<div style="border: 1px solid black; width: 150px; height: 30px; margin: 0 auto;"></div>
------------------------	--

2 marks

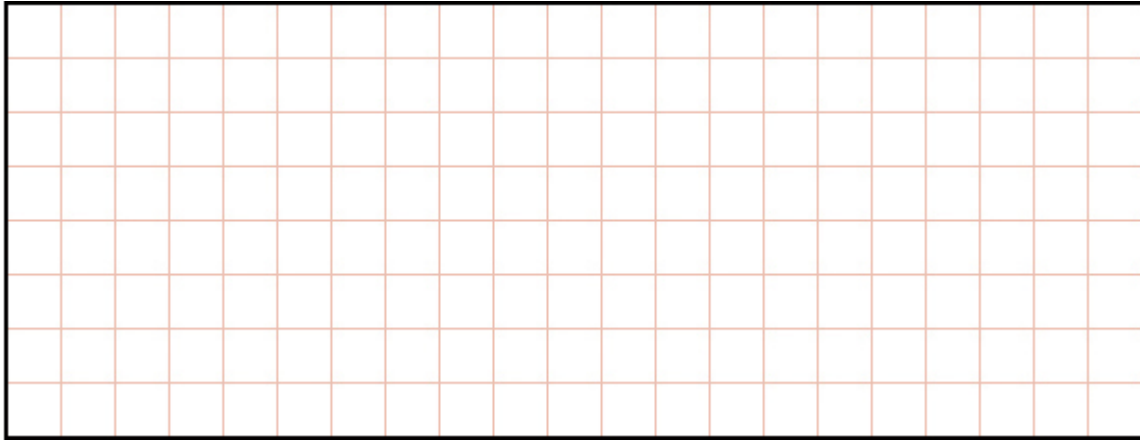
12. $37 \overline{)888}$

Show your method	<div style="border: 1px solid black; width: 150px; height: 30px; margin: 0 auto;"></div>
------------------------	--

2 marks

13.

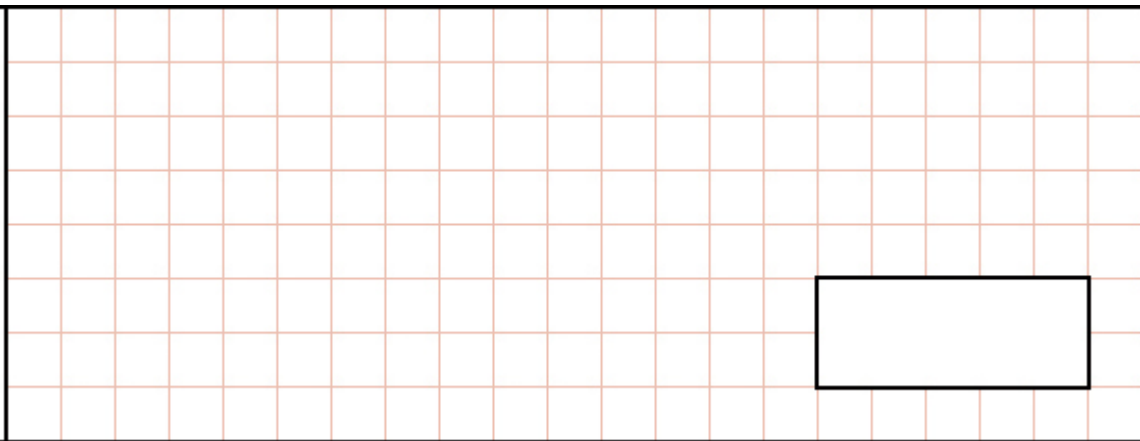
$57.4 \div 7 =$



1 mark

14.

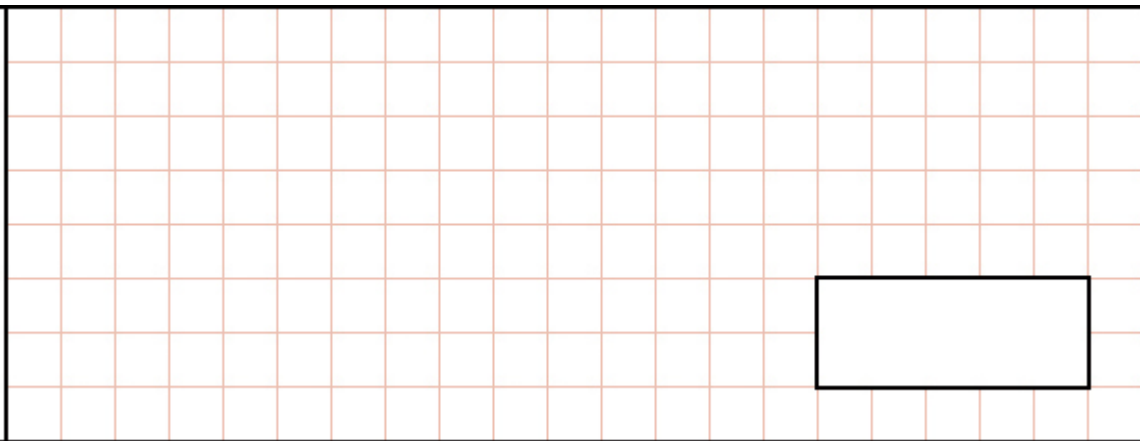
$65 \overline{)8625}$

<p>Show your method</p>	 <input data-bbox="1003 1138 1279 1255" type="text"/>
-------------------------	--

2 marks

15.

$53 \overline{)2248}$

<p>Show your method</p>	 <input data-bbox="1003 1772 1279 1885" type="text"/>
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2 marks

19. $17 \overline{)221}$

Show your method	<div style="border: 1px solid black; width: 150px; height: 30px; margin: 0 auto;"></div>
---------------------------------	--

2 marks

20. $21 \overline{)2751}$

Show your method	<div style="border: 1px solid black; width: 150px; height: 30px; margin: 0 auto;"></div>
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2 marks

21. $24 \overline{)672}$

Show your method	<div style="border: 1px solid black; width: 150px; height: 30px; margin: 0 auto;"></div>
---------------------------------	--

2 marks

Mark schemes

1.

Award **TWO** marks for the correct answer of 34

If the answer is incorrect, award **ONE** mark for evidence of appropriate working which contains no more than **ONE** arithmetical error, eg:

- repeated addition/subtraction methods, eg

$$\begin{array}{r} 816 \\ -240 \quad 10 \times 24 \\ \hline 576 \\ -240 \quad 10 \times 24 \\ \hline 336 \\ -240 \quad 10 \times 24 \\ \hline 96 \\ -48 \quad 2 \times 24 \\ \hline 48 \\ -48 \quad 2 \times 24 \\ \hline 0 \quad \text{wrong answer} \end{array}$$

- factor/multiple methods, eg

$$816 \div 8 = 102$$

$$102 \div 3 = \text{wrong answer}$$

- short division algorithm

$$\begin{array}{r} \text{wrong answer} \\ 24 \overline{) 8196} \end{array}$$

- long division algorithm

$$\begin{array}{r} \text{wrong answer} \\ 24 \overline{) 816} \\ -720 \\ \hline 96 \\ -96 \\ \hline 0 \end{array}$$

- fraction method

$$\frac{816}{24} = \frac{408}{12} = \frac{204}{6} = \text{wrong answer}$$

*In all cases accept follow-through of **ONE** error in working.*

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Variations on algorithms are acceptable, provided they represent a viable and complete method.

Do not award any marks if the final answer is missing.

No mark is awarded for repeated addition/ subtraction the wrong number of times.

Short division methods must be supported by evidence of appropriate carrying figures to indicate use of a division algorithm.

Up to 2

- | | | |
|-----------|------------------------------------|------------|
| 2. | 12 r 38 or 12.745... or equivalent | [2] |
| 3. | 36 r 5 or 36.357... or equivalent | [1] |
| 4. | 30 r 8 or 30.25 or equivalent | [1] |
| 5. | 25 r 22 or 25.647... or equivalent | [1] |
| 6. | 42 r 2 or 42.087... or equivalent | [1] |

- 7.** Award **TWO** marks for the correct answer of 42
- If the answer is incorrect award **ONE** mark for evidence of appropriate working containing no more than one arithmetic error, eg

- long division algorithm

wrong answer

$$\begin{array}{r} 22 \overline{) 924} \\ \underline{880} \\ 44 \\ \underline{-44} \\ 0 \end{array}$$

*Calculation must be performed for the award of **ONE** mark.*

- short division algorithm

wrong answer

$$22 \overline{) 924}$$

Short division methods must be supported by evidence of appropriate carrying figures to indicate use of a division algorithm.

- repeated addition / subtraction methods

$$\begin{array}{r}
 924 \\
 - 440 \quad 20 \times 22 \\
 \hline
 484 \\
 - 440 \quad 20 \times 22 \\
 \hline
 44 \\
 - 44 \quad 2 \times 22 \\
 \hline
 0 \quad \text{wrong answer}
 \end{array}$$

No mark is awarded for repeated addition / subtraction the wrong number of times.

- factor / multiple methods, eg

$$\begin{array}{r}
 22 \times 10 = 220 \\
 \times 4 \\
 22 \times 40 = 880 \\
 + 44 \\
 \hline
 924 \\
 924 \div 22 = \text{wrong answer}
 \end{array}$$

up to 2

[2]

8.

Award **TWO** marks for the correct answer of 17

If the answer is incorrect, award **ONE** mark for evidence of appropriate working which contains no more than **ONE** arithmetical error, eg:

- repeated addition/subtraction methods, eg

$$\begin{array}{r}
 544 \\
 - 320 \quad 10 \times 32 \\
 \hline
 224 \\
 - 160 \quad 5 \times 32 \\
 \hline
 64 \\
 - 64 \quad 2 \times 32 \\
 \hline
 0 \quad \text{wrong answer}
 \end{array}$$

- repeated halving, eg

$$\begin{array}{l}
 544 \div 2 = 272 \\
 272 \div 2 = 136 \\
 136 \div 2 = 68 \\
 68 \div 2 = 34 \\
 34 \div 2 = \text{wrong answer}
 \end{array}$$

- fraction method, eg

$$\frac{544}{32} = \frac{136}{8} = \frac{34}{2} = \text{wrong answer}$$

- short division algorithm

wrong answer

$$32 \overline{) 5 \ 4^{22}4}$$

- long division algorithm

wrong answer

$$\begin{array}{r} 32 \overline{) 544} \\ \underline{320} \\ 224 \\ \underline{-224} \\ 0 \end{array}$$

*In all cases accept follow-through of **ONE** error in working.*

*Working must be carried through to reach an answer for the award of **ONE** mark.*

***Do not** award any marks if the final answer is missing.*

Variations on algorithms are acceptable, provided they represent a viable and complete method.

***No mark** is awarded for repeated addition/subtraction/halving the wrong number of times.*

Short division methods must be supported by evidence of appropriate carrying figures to indicate use of a division algorithm.

Up to 2

[2]

9.

For 2 marks:

$$17r6 \text{ or } 17 \frac{6}{42} \text{ or } 17 \frac{1}{7} \text{ or } 17.1(42\dots)$$

For 1 mark:

17 or evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

10.

Award **TWO** marks for the correct answer of 53

If the answer is incorrect, award **ONE** mark for evidence of appropriate working which contains no more than **ONE** arithmetical error, eg:

- long division algorithm

wrong answer

$$\begin{array}{r} 16 \overline{) 848} \\ \underline{800} \\ 48 \\ \underline{-48} \\ 0 \end{array}$$

*In all cases accept follow through of **ONE** error in working.*

*Calculation must be performed for the award of **ONE** mark.*

***Do not** award any marks if the final answer is missing.*

Variations on algorithms are acceptable, provided they represent a viable and complete method.

- short division algorithm

wrong answer

$$16 \overline{) 848}$$

Short division methods must be supported by evidence of appropriate carrying figures to indicate use of a division algorithm.

***No mark** is awarded for repeated addition / subtraction the wrong number of times.*

- repeated addition / subtraction methods, eg

$$\begin{array}{r} 848 \\ \underline{-400} \quad 25 \times 16 \\ 448 \\ \underline{-400} \quad 25 \times 16 \\ 48 \\ \underline{-48} \quad 3 \times 16 \\ 0 \quad \text{wrong answer} \end{array}$$

- repeated halving, eg

$$848 \div 2 = 424$$

$$424 \div 2 = 212$$

$$212 \div 2 = 106$$

$$106 \div 2 = \text{WRONG ANSWER}$$

*No **mark** is awarded for repeated halving the wrong number of times.*

Up to 2

[2]

11.

For 2 marks:

$$253\text{r}18 \text{ or } 253\frac{2}{3} \text{ or } 253\frac{18}{27} \text{ or } 253.7 \text{ or } 253.6(66\dots)$$

For 1 mark:

253 or 254 or evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

12.Award **TWO** marks for the correct answer of 24If the answer is incorrect, award **ONE** mark for the formal methods of division with no more than **ONE** arithmetic error, i.e.

- long division algorithm, e.g.

$$\begin{array}{r}
 23 \text{ r}29 \\
 37 \overline{)888} \\
 \underline{- 740} \\
 140 \text{ (error)} \\
 \underline{- 111} \\
 29
 \end{array}$$

OR

$$\begin{array}{r}
 42 \text{ (error)} \\
 37 \overline{)888} \\
 \underline{- 740} \quad 20 \times 37 \\
 148 \\
 \underline{- 148} \quad 4 \times 37 \\
 0
 \end{array}$$

- short division algorithm, e.g.

$$\begin{array}{r}
 23 \text{ r}27 \text{ (error)} \\
 37 \overline{)88^{14}8}
 \end{array}$$

*Working must be carried through to reach a final answer for the award of **ONE** mark.*

*Short division methods **must** be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure **must** be less than the divisor.*

Up to 2m

[2]**13.**

8.2

[1]**14.**

For 2 marks:

$$132\text{r}45 \text{ or } 132\frac{9}{13} \text{ or } 132\frac{45}{65} \text{ or } 132.7 \text{ or } 132.6(92\dots)$$

For 1 mark:

132 or evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

15.

For 2 marks:

$$42r22 \text{ or } 42\frac{22}{53} \text{ or } 42.4(15\dots)$$

For 1 mark:

42 or evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

16.

For 2 marks:

$$24r5 \text{ or } 24\frac{5}{36} \text{ or } 24.1(38\dots)$$

For 1 mark:

24 or evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

17.

For 2 marks:

$$235r5 \text{ or } 235\frac{5}{42} \text{ or } 235.1(19\dots)$$

For 1 mark:

235 or evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

18.

For 2 marks:

235

For 1 mark:

Evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

19.

For 2 marks:

13

For 1 mark:

Evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

20.

For 2 marks:

131

For 1 mark:

Evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

21.

For 2 marks:

28

For 1 mark:

Evidence of either a long division method or short division method with only one error (carry figures must be seen in a short division method)

Up to 2

[2]

22.Award **TWO** marks for the correct answer of 26If the answer is incorrect, award **ONE** mark for the formal method of division with no more than **ONE** arithmetical error, i.e.

- long division algorithm, e.g.

$$\begin{array}{r}
 28r14 \\
 43 \overline{)1118} \\
 - \frac{645}{573} \quad (15 \times 43) \\
 - \frac{430}{143} \text{ (error) } (10 \times 43) \\
 - \frac{129}{14} \quad (3 \times 43)
 \end{array}$$

OR

$$\begin{array}{r}
 25r23 \\
 43 \overline{)1118} \\
 - \frac{88}{238} \text{ (error) } (2 \times 43) \\
 - \frac{215}{23} \quad (5 \times 43)
 \end{array}$$

*Working must be carried through to reach a final answer for the award of **ONE** mark.*

- short division algorithm, e.g.

$$43 \overline{)111} \begin{matrix} 2 \\ 5 \end{matrix} \text{ (error)}$$

Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.

Up to 2m

[2]

23.Award **TWO** marks for the correct answer of 59.If the answer is incorrect, award **ONE** mark for the formal method of long division, eg:

Wrong answer

$$\begin{array}{r} 28 \overline{) 1652} \\ - 140 \\ \hline 252 \\ - 252 \\ \hline 0 \end{array}$$

*Working must be carried through to reach an answer for the award of **ONE** mark.*

*In all cases accept follow-through of **ONE** error in working.*

***Do not** award any marks if the final answer is missing.*

Up to 2

[2]**24.**Award **TWO** marks for the correct answer of 63.If the answer is incorrect, award **ONE** mark for the formal methods of division which contain no more than **ONE** arithmetical error, e.g:

- long division algorithm

wrong answer

$$\begin{array}{r} 37 \overline{) 2331} \\ - 222 \\ \hline 111 \\ - 111 \\ \hline 0 \end{array}$$

*Working must be carried through to reach an answer for the award of **ONE** mark.*

***Do not** award any marks if the final (answer) line of digits is missing.*

- short division algorithm

wrong answer

$$37 \overline{) 233^{11}1}$$

Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method.

Up to 2

[2]

25.

Award **TWO** marks for the correct answer of 232.

If the answer is incorrect, award **ONE** mark for the formal methods of division which contains no more than **ONE** arithmetical error, e.g:

- long division algorithm

wrong answer

$$\begin{array}{r} 13 \overline{) 3016} \\ \underline{26} \\ 41 \\ - 39 \\ \underline{ 26} \\ - 26 \\ \underline{ 0} \end{array}$$

*Working must be carried through to reach an answer for the award of **ONE** mark.*

***Do not** award any marks if the final (answer) line of digits is missing.*

- short division algorithm

wrong answer

$$13 \overline{) 3 \ 0^4 \ 1^2 \ 6}$$

Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method.

Commentary: Two marks are awarded for the correct answer. However, if the answer is incorrect, one mark can only be awarded if the pupil has used one of the formal methods of long or short division. An appropriate carrying figure in short division must be less than 13 in this instance.

Up to 2

[2]

26.Award **TWO** marks for the correct answer of 97If the answer is incorrect, award **ONE** mark for the formal methods of division with no more than **ONE** arithmetic error, i.e.

- long division algorithm, e.g.

$$\begin{array}{r}
 96 \text{ r}82 \\
 83 \overline{) 8051} \\
 \underline{- 7470} \\
 580 \text{ (error)} \\
 \underline{- 498} \\
 82
 \end{array}$$

OR

$$\begin{array}{r}
 47 \text{ (error)} \\
 83 \overline{) 8051} \\
 \underline{- 4150} \quad 50 \times 83 \\
 3901 \\
 \underline{- 3320} \quad 40 \times 83 \\
 581 \\
 \underline{581} \quad 7 \times 83 \\
 0
 \end{array}$$

- short division algorithm, e.g.

$$\begin{array}{r}
 9 \text{ 6 r}73 \\
 83 \overline{) 805^{57}1} \text{ (error)}
 \end{array}$$

*Working must be carried through to reach a final answer for the award of **ONE** mark.*

*Short division methods **must** be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure **must** be less than the divisor.*

Up to 2m

[2]

27.Award **TWO** marks for the correct answer of 25If the answer is incorrect, award **ONE** mark for the formal methods of division with no more than **ONE** arithmetical error, i.e.

$$\begin{array}{r}
 25r2 \\
 29 \overline{)725} \\
 - \frac{580}{145} \quad (20 \times 29) \\
 - \frac{116}{31} \text{ (error) } (4 \times 29) \\
 - \frac{29}{2} \quad (1 \times 29)
 \end{array}$$

OR

$$\begin{array}{r}
 29 \overline{) \frac{24}{725}} \text{ (error)} \\
 - \frac{58}{145} \quad (2 \times 29) \\
 - \frac{145}{0} \quad (5 \times 29)
 \end{array}$$

- short division algorithm, e.g.

*Working must be carried through to reach a final answer for the award of **ONE** mark.*

$$29 \overline{) 72^{14}5} \text{ (error)}$$

Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.

Up to 2m

[2]

28.Award **TWO** marks for the correct answer of 38If the answer is incorrect, award **ONE** mark for a formal method of division with no more than **ONE** arithmetic error, i.e.

- long division algorithm, e.g.

$$\begin{array}{r}
 38 \text{ r}2 \\
 59 \overline{) 2242} \\
 \underline{- 1770} \quad (30 \times 59) \\
 474 \quad (\text{error}) \\
 \underline{- 472} \quad (8 \times 59) \\
 2
 \end{array}$$

OR

$$\begin{array}{r}
 35 \quad (\text{error}) \\
 59 \overline{) 2242} \\
 \underline{- 1770} \quad (30 \times 59) \\
 472 \\
 \underline{- 472} \quad (8 \times 59) \\
 0
 \end{array}$$

- short division algorithm, e.g.

$$\begin{array}{r}
 37 \text{ r}48 \quad (\text{error}) \\
 59 \overline{) 224^{47}2}
 \end{array}$$

*Working must be carried through to reach a final answer for the award of **ONE** mark.*

Short division methods must be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure must be less than the divisor.

Up to 2m

[2]

29.Award **TWO** marks for the correct answer of 91If the answer is incorrect, award **ONE** mark for the formal methods of division with no more than **ONE** arithmetic error, i.e.

- long division algorithm, e.g.

$$\begin{array}{r}
 81 \text{ (error)} \\
 97 \overline{) 8827} \\
 \underline{- 8730} \\
 97 \\
 \underline{- 97} \\
 0
 \end{array}$$

OR

$$\begin{array}{r}
 91 \text{ r}2 \\
 97 \overline{) 8827} \\
 \underline{- 7760} \qquad 80 \times 97 \\
 1069 \text{ (error)} \\
 \underline{- 970} \qquad 10 \times 97 \\
 99 \\
 \underline{- 97} \qquad 1 \times 97 \\
 2
 \end{array}$$

*Working must be carried through to reach a final answer for the award of **ONE** mark.*

Sometimes an error in calculation leads to a remainder which equals the truncated decimal equivalent. In such cases when the remainder is expressed as a decimal, evidence of working leading to the decimal must be seen in order to condone the possible notation error.

- short division algorithm, e.g.

$$\begin{array}{r}
 71 \text{ (error)} \\
 97 \overline{) 882^9 7}
 \end{array}$$

*Short division methods **must** be supported by evidence of appropriate carrying figures to indicate the use of a division algorithm, and be a complete method. The carrying figure **must** be less than the divisor.*

Up to 2m

[2]