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ASSESSMENT and QUALIFICATIONS ALLIANCE

## General Certificate of Secondary Education

# Mathematics 3302
*Specification B*

*Module 5 Paper 1 Tier F 33005F1*

# Mark Scheme

## *2005 examination - June series*

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

It must be stressed that a mark scheme is a working document, in many cases further developed and expanded on the basis of candidates' reactions to a particular paper. Assumptions about future mark schemes on the basis of one year's document should be avoided; whilst the guiding principles of assessment remain constant, details will change, depending on the content of a particular examination paper.

| | |
|---|---|
| **M** | Method marks awarded for a correct method. |
| **A** | Accuracy marks awarded when following on from a correct method. It is not necessary always to see the method. This can be implied. |
| **B** | Marks awarded independent of method. |
| **M dep** | A method mark which is dependent on a previous method mark being awarded. |
| **ft** | Follow through marks. Marks awarded for correct working following a mistake in an earlier step. |
| **SC** | Special Case. Marks awarded for a common misinterpretation which has some mathematical worth. |
| **oe** | Or equivalent. |
| **eeoo** | Each error or omission. |

## MODULE 5 Paper 1 FOUNDATION TIER 33005/F1

| | | | |
|---|---|---|---|
| 1(a) | 16 | B1 | |
| (b) | Halve or divide by 2 | B1 | oe Accept 256 |

| | | | |
|---|---|---|---|
| 2(a) | $\frac{25}{100} \times 60$ or $60 \div 4$ | M1 | oe |
| | 15 | A1 | Ignore % and units |
| (b) | 7.5 or $\frac{15}{2}$ | B1 ft | ft their (a) ÷ 2 |

| | | | |
|---|---|---|---|
| 3(a) | i) *Y* | B1 | |
| | ii) *X* | B1 | |
| | iii) *Z* | B1 | |
| (b) | Evidence of counting squares | M1 | |
| | *C* or *Z* or 42 | A1 | |

| | | | |
|---|---|---|---|
| 4(a) | *B* and *C* | B1 | |
| (b) | *A* and *D* | B1 | |

| | | | |
|---|---|---|---|
| 5(a) | *D*, *E* and *F* | B2 | –1 eeoo |
| (b) | Isosceles | B1 | |

| | | | |
|---|---|---|---|
| 6(a) | 5 | B1 | |
| (b) | 10 | B1 ft | ft their (a) × 2 |

| | | | |
|---|---|---|---|
| 7(a) | 500 | B1 | |
| (b) | 500 + 500 + 5 + 5<br>or 5 + 5 + 0.05 + 0.05<br>or their (a) + their (a) + 5 + 5 | M1 | 10 m 10 cm or 10.1 |
| | 1010 | A1 | |

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|---|---|---|---|
| 8(a) | i) 49 and 51 | B1 | Must be from the list |
| | ii) 49 and 56 | B2 | B1 for one correct and one incorrect<br>B1 for one correct and none incorrect<br>Must be from the list |
| (b) | Valid explanation | B1 | Accept: 63 is in 7 times table<br>because 7 × 8 = 56 and 7 × 9 = 63 |
| (c) | 6, 13, 20 | B2 | B1 for 2 terms correct |

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|---|---|---|---|
| 9 | 2 different correct sets which total £6<br><br>eg £3, £1.50, £1.50<br>eg £3.50, £1.25, £1.25 | B2<br>B2 | Note: Must be £3 - £3.99 for adult and £1 - £1.99 for child<br>Each set would score B1 if total is £6 but not in given range, unless different child prices are used<br><br>eg for B1<br>£4, £1, £1 (out of range)<br>£2.80, £1.60, £1.60 (out of range)<br>£3, £1.60, £1.40 (different child prices)<br><br>eg for B0<br>£3, £2, £1<br>£2.50, £2, £1.50<br>(out of range **and** different child prices) |

| | | | |
|---|---|---|---|
| 10(a) | 175 | B1 | |
| (b) | Complete build up method using pints | M1 | eg 35 + 1.75 |
| | 36.75 | A1 | |

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|---|---|---|---|
| 11(a) | Sight of 14<br>or (20) – 6 ÷ 2 | M1 | Condone missing brackets |
| | 7 | A1 | |
| (b) | i) 2 | B1 | |
| | ii) –2.5 | B1 | oe Accept $-2.6 < x < -2.4$ |

| | | | |
|---|---|---|---|
| 12(a) | Regular hexagon drawn | B1 | |
| (b) | Valid attempt at construction | M1 | eg At least two diameters drawn<br>eg At least two arcs drawn<br>eg Any hexagon drawn<br>eg At least two marks in region of correct positions |
| | Regular hexagon completed | A1 | Must be ruled |

| | | | |
|---|---|---|---|
| 13(a) | 5 × 3 (+) 2 × –4<br>or 15 (+) –8 | M1 | 23 implies M1A0 |
| | 7 | A1 | |
| (b) | $16 = 10 + 2c$ | M1 | $(c =) \frac{a-5b}{2}$ |
| | $6 = 2c$ | M1 | $(c =) \frac{16-10}{2}$<br>10 + 2 × 3 (= 16) scores M2 |
| | 3 | A1 | |

| | | | |
|---|---|---|---|
| 14 | 30 or 24 | M1 | 324 implies M1A0 |
| | 54 | A1 | 5.4 × 10 = 54 scores M1A1 |

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|---|---|---|---|
| 15 | 360 – (100 + 40 + 80)<br>or $x$ + 100 + 40 + 80 = 360 | M1 | oe<br>Condone missing brackets |
| | 140 | A1 | |

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|---|---|---|---|
| 16 | $\frac{10}{12}$ and $\frac{9}{12}$<br>0.83... and 0.75<br>or 10 **and** 9 squares shaded | M1 | Must be able to compare<br>eg Common denominator<br>(at least one numerator correct)<br>eg Conversion to decimals<br>(at least one decimal correct) |
| | $\frac{5}{6}$ or $\frac{10}{12}$ or 0.83... | A1 | |

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|---|---|---|---|
| 17(a) | Even | B1 | |
| (b) | Odd | B1 | |

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|---|---|---|---|
| 18(a) | Angle $B$ = 70<br>or 180 – 20 – 70<br>or Angle $DCA$ = 20<br>or Angle $DAC$ = 90 | M1 | May be seen on diagram |
| | Angle $ACB$ = 90 | A1 | Method must be seen |
| (b) | 8.4 × 2 | M1 | |
| | 16.8 | A1 | |

| | | | |
|---|---|---|---|
| 19 | $5x – 3x = 2 + 4$ | M1 | |
| | $2x = 6$ | A1 | |
| | ($x$ =) 3 | A1 | |