# Mark Scheme (Results)
# November 2009

**IGCSE**

# IGCSE Mathematics (4400)
# Paper 1F Foundation Tier

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# November 2009 IGCSE Mathematics (4400) Mark Scheme – Paper 1F

| Q | | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|
| 1. | (a) | | 1/3 oe | 1 | B1 eg 2/6 |
| | (b) | | 6 sectors shaded | 1 | B1 |
| | (c) | | 2/5 oe | 1 | B1 eg 40/100 |
| | | | | | Total 3 marks |

| 2. | (a) | | 60 | 1 | |
|---|---|---|---|---|---|
| | (b) | | 16 | 1 | |
| | (c) | | 8 | 1 | |
| | (d) | | 11 | 1 | |
| | | | | | Total 4 marks |

| 3. | (a) | | Kite | 1 | B1 (Any recognisable spelling) |
|---|---|---|---|---|---|
| | (b) | | Obtuse | 1 | B1 (Any recognisable spelling) |
| | (c) | | 1 | 1 | B1 |
| | (d) | | 2 | 1 | B1 accept 2 times, twice, 2x etc |
| | | | | | Total 4 marks |

| 4. | (a) | | 5 | 1 | B1 |
|---|---|---|---|---|---|
| | (b) | | 24 | 1 | B1 allow 23−24.5 |
| | (c) | | Ann | 1 | B1 |
| | (d) | | Bar > 12.5 and < 15 | 1 | B1 |
| | (e) | 70/100 x 12 oe | | | M1    M1 for 1.7 x 12 =(20.4) |
| | | | 8.4(0) | 2 | A1 |
| | | | | | Total 6 marks |

| 5. | (i) | | Radius | 1 | B1 |
|---|---|---|---|---|---|
| | (ii) | | Sector | 1 | B1 |
| | | | | | Total 2 marks |

| Q | Working | Answer | Mark | Notes |
|---|---------|--------|------|-------|
| 6. | 3 x 6 – 5 x 2 | 8 | 2 | M1    18 – 10 <br> A1 |
| | | | | Total 2 marks |

| Q | Working | Answer | Mark | Notes |
|---|---------|--------|------|-------|
| 7. (a) | | 2.5 | 1 | B1 |
| (b) | Arrange in order or 2.6 and 2.7 identified or (6+1)/2 (=3.5) attempt to find middle position | 2.65 | 2 | M1    2.5 2.5 2.6 2.7 3.2 3.3 <br><br> A1 |
| (c) | (2.5 +2.5+ 2.6+ 2.7+ 3.2+ 3.3)÷6 | 2.8 | 2 | M1    16.8÷6 <br> A1 |
| (d) (i) | | 1/6 | 1 | B1    accept .166, .17, 16.6% or 17% |
| (ii) | | 0 | 1 | B1    accept 0/6 |
| | | | | Total 7 marks |

| Q | Working | Answer | Mark | Notes |
|---|---------|--------|------|-------|
| 8. (a) | 6 x 250 + 7 x 100 | 2200 | 2 | M1    1500 +700 <br> A1 |
| (b) | "2200" ÷ 1000 | 2.2 | 2 | M1 <br> A1ft |
| (c) | 10 – 5 x 1.35 | 3.25 | 2 | M1    10 – 6.75 <br> A1 |
| | | | | Total 6 marks |

| Q | Working | Answer | Mark | Notes |
|---|---------|--------|------|-------|
| 9. | | 10 | 2 | B2    B1 for 9 |
| | | | | Total 2 marks |

| Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|
| 10. (a) (i) | | 61.4656 | 1 | B1 |
| (ii) | | 61.5 | 1 | B1ft must be >=4 sig figs |
| (b) (i) | | 8.45576... | 1 | B1 |
| (ii) | | 8.46 | 1 | B1ft must be >= 3 dp |
| | | | | Total 4 marks |

| Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|
| 11. (a) (i) | | 19 | 1 | B1 |
| (ii) | 55 = 3n – 5 or (55 + 5)÷3 | | | M1 allow for 55+5 or 55/3 (18.3rec) |
| | | 20 | 2 | A1 |
| (b) | | 5 , 6.2 | 2 | B2 B1 for 5 B1ft for "5" + 1.2 |
| | | | | Total 5 marks |

| Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|
| 12. (a) | 25 x 30 | 750 m² | 3 | M1<br>A1<br>B1 (ind) square metres , metres squared etc |
| (b) | 280 ÷ 4 | 70 | 2 | M1<br>A1 |
| | | | | Total 5 marks |

| Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|
| 13. (a) | 2 x 1.50<br>5 + 2 x 1.50 | 8 | 3 | M1 (2 extra hours)<br>M1<br>A1 SC B1 for 18 (5 + 2x6.5) or 9.50 (5 +3x 1.5) |
| (b) | 15.5 – 5<br>"10.50" ÷ 1.5 | 8 | 3 | M1 10.50<br>M1 (7 hours)<br>A1sc B1 for 15.5 ÷ 1.5 (=10.33.. or 11.33..)or 2.61.. |
| | | | | Total 6 marks |

| | Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|
| 14. | (a) | (2x1)/(3x4) or 2/(3x4) | | | B1 |
| | | | 2/12 | 2 | B2        or correct cancelling seen |
| | (b) | "x"/15 + "y"/15 or ((2x5)+(1x3))/(3x5) | | | B1        denominators common multiple of 15 |
| | | | | | or 10/15 or 3/13 (accept (2x5)/15 or (3x1)/15) |
| | | | | 2 | B1 correct answer equivalent to 13/15 |
| | | | | | Total 4 marks |

| | Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|
| 15. | (a) | | 35 | 1 | B1 |
| | (b) | 8y -5y = 3 +9 | | | M1        correct  gathering of terms |
| | | 3y = 12 or 3y-12=0 | | | M1        (can imply lst M1) |
| | | M0A0 | 4 | 3 | A1        Answer only or embedded answer =M0A0 |
| | | | | | Total 4 marks |

| | Q | Working | | Answer | Mark | Notes |
|---|---|---|---|---|---|---|
| 16. | (a) | 360 ÷ 8 (=45) | 180x6/8 (=135) | | | M1 |
| | | (180 – "45")÷ 2 | "135"÷2 | | | M1 dep |
| | | | | 67.5 | 3 | A1 |
| | (b) | 360 ÷ 30 | 180-30=180(n-2)/n | | | M1 |
| | | | | 12 | 2 | A1 |
| | | | | | | Total 5 marks |

| | Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|
| 17. | | (1x3)+ (2x2)+(3x7)+(4x13)+(5x11) | | | M1        must see at least 3 correct products |
| | | "135"÷ 36 | | | M1 (dep) |
| | | | 3.75 | 3 | A1        accept 4 with working |
| | | | | | Total 3 marks |

| | Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|
| 18. | (a) | 12x + 6(x + 2) oe | 18x +12 | 2 | B2        B1 for 12x or 6(x + 2) penalise errors |
| | (b) | "a" = 57        18x + 12 =57 or 45 ÷ 18 | | | M1ft  "a"= linear term b x + c (c, b ≠ 0) |
| | | | 2.5 | 2 | A1 cao allow numerical methods |
| | | | | | Total 4 marks |

| Q | | | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|---|
| 19. | (a) | (i) | | 3,7 | 1 | B1 |
| | | (ii) | | 6 | 1 | B1 |
| | (b) | | | 1 , 2 | 1 | B1 |
| | (c) | | | Black cats | 1 | B1    Cats that are black etc |
| | | | | | | Total 4 marks |

| Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|
| 20. | $4^2 + 6^2$ (=52) $\sqrt{"52"}$ | 7.21 | 3 | M1 <br> M1 (dep) <br> A1    7.21(11...) awrt 7.21 |
| | | | | Total 3 marks |

| Q | | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|
| 21. | (a) | 2 x π x30 | 188 | 2 | M1 <br> A1       188(.495...) |
| | (b) | $4.2^2$ (=17.64) <br> π x $2.1^2$ (= 13.8......) <br> "$4.2^2$" - "π x $2.1^2$" | 3.79 | 4 | M1 <br> M1 <br> M1 dep on both previous M1's <br> A1       Accept awrt 3.78 or 3.79 |
| | | | | | Total 6 marks |

| Q | Working | Answer | Mark | Notes |
|---|---|---|---|---|
| 22. | 0.1 + 0.05 + 0.05 or 1 – (0.4 + 0.3 + 0.1) | 0.2 | 2 | M1 <br> A1 |
| | | | | Total 2 marks |

| Q | | Working | Answer | Mark | Notes |
|---|---|---|---|---|---|
| 23. | (a) | 2w - 6 +3w +15 | 5w +9 | 2 | M1    M1 for 3 correct terms <br> A1 |
| | (b) | $x$ +5 = 3x9 | 22 | 2 | M1 <br> A1    Answer only or embedded answer =M0A0 |
| | (c) | 5y < 6 | y<6/5oe | 2 | M1    Must be an inequality <br> A1 |
| | | | | | Total 6 marks |

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| Q | Working | Answer | Mark | Notes | |
|---|---|---|---|---|---|
| 24. | 2 x (0.5 x 8 x 15) +(17 x 20) +(15 x 20) +(8 x 20) <br> 2 x 60 +340 + 300 + 160 | 920 | 3 | M1 <br> M1 <br> A1 | 1 correct face 60, 340, 300 or 160 <br> All correct faces added 120 Ŧ 2x60 |
| | | | | | Total 3 marks |
| MARKS | | | | | TOTAL FOR PAPER:  100 MARKS |

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