Coimisiún na Scrúduithe Stáit
State Examinations Commission

Scéim Mharcála ***An Ardteistiméireacht Fheidhmeach, 2004***

Feidhmithe Matamaiticiúla

Marking Scheme ***Leaving Certificate Applied, 2004***

Mathematical Applications

MARKING SCHEME
LEAVING CERTIFICATE APPLIED, 2004

MATHEMATICAL APPLICATIONS

GENERAL GUIDELINES FOR EXAMINERS

1. Penalties of three types are applied to candidates' work as follows:
   - Blunders - mathematical errors/omissions (-3)
   - Slips - numerical errors (-1)
   - Misreadings (provided task is not oversimplified) (-1).

   Frequently occurring errors to which these penalties must be applied are listed in the scheme. They are labelled as B1, B2, B3,....., S1, S2, S3,...., M1, M2, etc. Note that these lists are not exhaustive.

2. When awarding attempt marks, e.g. Att(3), it is essential to note that
   - any correct relevant step in a part of a question merits at least the attempt mark for that part
   - if deductions result in a mark which is lower than the attempt mark, then the attempt mark must be awarded
   - a mark between zero and the attempt mark is never awarded.

3. Worthless work is awarded zero marks. Some examples of such work are listed in the scheme and they are labelled as W1, W2,....etc.

4. The *same* error in the *same* section of a question is penalised *once* only.

5. Special notes relating to the marking of a particular part of a question are indicated by an asterisk. These notes immediately follow the box containing the relevant solution.

6. Particular cases, verifications and answers derived from diagrams (unless requested) qualify for attempt marks only.

7. The phrase “and stops” means that no more work is shown by the candidate.

QUESTION 1

Part (a)	**5 marks**	**Att 2**
Part (b)	**5 marks**	**Att 2**
Part (c)	**5 marks**	**Att 2**
Part (d)	**5 marks**	**Att 2**
Part (e)	**5 marks**	**Att 2**
Part (f)	**5 marks**	**Att 2**
Part (g)	**5 marks**	**Att 2**
Part (h)	**5 marks**	**Att 2**
Part (i)	**5 marks**	**Att 2**
Part (j)	**5 marks**	**Att 2**

Part (a) **5 marks** **Att 2**

Find 48% of €643.45

(a) **5marks** **Att 2**

(a) €643.45 × 48% = € 308.856
= € 308.86

* Accept answer in cent form
* No need for euro symbol.
* Accept correct answer with no work.

Blunders(-3)
B1: Inverts 48%.(€1340.52).
B2: Inverts €643.45
B3: Misplaced decimal.

Slips (-1)
S1: Each numerical error to a max. of –3.
S2: Failure to round or incorrect rounding.
S3: Evaluates 148% (€952.31)
S4: Calculates 52% (€334.59)

Attempts(2 marks)
A1: 48± 643.45.

Part (b) **5 marks** **Att 2**

There are 30 students in a class. 12 of these are girls. What percentage of the class are girls?

Part (b) **5 marks** **Att 2**

(b) $\frac{12}{30} \times 100$

$\frac{2}{5} \times 100 = 40\%$

* Accept correct answer with no work.
* Accept answer = 40.

Blunders(-3)
B1:Inverts 100.
B2: Inverts $\frac{12}{30}$
B3: Answer = $\frac{12}{30}$ and stops.
B4: Misplaced decimal.

Slips(-1)
S1: Each numerical error to a max. of –3.
S2: Calculates percentage of boys (answer = 60%).
S3: Answer = $\frac{42}{30} \times 100$ and continues.

Attempts(2)
A1: Answer=30± 12 and stops.

Worthless (0)
W1: Answer = 12.
W2: Answer = 30.

Part (c) **5 marks** **Att 2**

An aeroplane flies 3690 km in 4.5 hours.

Calculate the average speed of the aeroplane. Use the formula $S = \frac{D}{T}$

(c) **5marks** **Att 2**

(c) $S = \frac{3690}{4.5} = 820$ km per hour.

Blunders(-3)
B1: 3690 x 4.5 =16605km/hr.
B2: Inverts $\frac{3690}{4.5}$ and continues.
B3: Correct substitution and stops + possible S2.
B4: Each incorrect substitution.
B5: Misplaced decimal.

Slips(-1)
S1: Each numerical error to a max. of –3.
S2: Incorrect or omitted units

Attempts(2)
A1: One substitution correct/incorrect.
A2: 3690 ± 4.5 and stops.

Part (d) **5 marks** **Att 2**

The length of a side of a square is 5.2 m. Calculate the area of the square.

Part (d) **5 marks** **Att 2**

(d) Area = $5.2 \times 5.2 = 27.04\ m^2$

* Accept correct answer with no work

Blunders(-3)
B1: Incorrect length or width.
B2: 5.2 x 5.2 and stops + possible S2.
B3: Misplaced decimal.
B4: Calculates perimeter.

Slips(-1)
S1: Each numerical error to a max. of –3.
S2: Incorrect or omitted units.

Attempts(2)
A1: Answer = 5.2 ± 5.2.
A2: Answer = $\sqrt{5.2} = 2.28$

Worthless(0)
W1: $5.2 \div 5.2$.

Part (e) **5 marks** **Att 2**

Calculate $(25.36)^2$, correct to two decimal places.

(e) **5marks** **Att 2**

(e) $(25.36)^2 = 643.1296$
$= 643.13.$

* Accept correct with no work

Blunders(-3)
B1: Answer $25.36 \times 2 = 50.72$.
B2: Misplaced decimal.
B3: Answer = $25.36 \div 2 = 12.68$
B4: Answer = $\sqrt{25.36} = 5.03$

Slips(-1)
S1:Failure to round or incorrect rounding.

Attempts(2)
A1: Answer = 25.36×25.36 stops

Worthless(0)
W1: 25.36 ± 2
W2: Answer = 2536

(f) **5marks** **Att 2**

A journey begins at 11:15 pm and ends at 0:52 am. How long does the journey take?

(f) **5marks** **Att 2**

(f) 0:52 am – 11:15 pm = 1 hour 37 mins.

* Accept answer in minutes (97 min)
* Accept answer = 1.61666667 hours.
B1: 1 hour = 100 minutes.
B2: Adds rather than subtracts.
B3: Misplaced decimal.
B4: minutes ≠ correct decimal of an hour unless B1.
B4: 11:15 – 0:52 = 10 hours 23 mins.

Slips(-1)
S1: Answer = 01:37.
S2: Incorrect or omitted units.
S3: Each numerical error to a max. of -3.
S4: Truncates decimal answer.

Attempts(2)
A1: Answer = 1 hour.
A2:Answer 11:37.

Worthless (0)
W1: Multiples 0:52 by 11:15.

Part (g) **5 marks** **Att 2**

A school basketball team played 7 matches. Their scores were 71, 57, 26, 48, 68, 42, and 60. What was the median score?

(g) **5marks** **Att 2**

(g) 26, 42, 48, (57) 60, 68, 71

Median = 57

* Accept correct answer with no work.

Blunders(-3)
B1: Ignores numerical order and answer = 48.

Slips(-1)
S1: Answer = 399 (57 x 7)
S2: List evident, each score omitted to a max. of -3.

Attempts(2)
A1: Calculates the mean correct or incorrect (mean = 53.14)
A2:Answer = 7.

Worthless (0)
W1**:** Answer = 7
W2: Answer = any other number other than 57 or 48 (from the given list)

Part (h) **5 marks** **Att 2**

Given an exchange rate of €1 = $ 1.15, convert €550 to dollars.

(h) **5marks** **Att 2**

(h) €550 × $ 1.15 = $ 632.50

* Accept correct answer with no work, no need for euro symbol

Blunders(-3)
B1: Divides by $ 1.15, answer = $ 478.26.
B2: Inverts €550.
B3: Misplaced decimal

Slips(-1)
S1: Each numerical error to a max. of –3.

Attempts(2)
A1:€550 ± $ 1.15.

Worthless(0)
W1: Answer = $550.

Part (i) **5 marks** **Att 2**

A bill amounts to €195, excluding VAT. VAT is added to the bill at the rate of 21%. Calculate the bill including VAT.

(i) **5marks** **Att 2**

(i) €195 × 121% = €235.95 or €195 + (€195 ×21%)
= €195 + €40.95
= € 235.95.

* Accept correct answer with no work.
* Accept answer in cent form but must give word cent in answer.

Blunders(-3)
B1: Inverts $\frac{21}{100}$ and continues. (€1123.57)
B2: Inverts €195 and continues.
B3: Misplaced decimal.

Slips(-1)
S1: Each numerical error to a max. of –3.
S2: Gets 79%. (€154.05)
S3: Answer = €40.95 and stops.

Attempts(2)
A1:€195 ± 21.
A2:€195 increased by any number not covered above.

Worthless(0)
W1: Answer = €195.

Part (j) **5 marks** **Att 2**

Calculate the cost of 8 litres of milk at €0.78 per litre.

(j) **5marks** **Att 2**

(j)	€0.78 × 8 = €6.24

* Accept correct answer with no work.
* Accept answer in cent form but must indicate this.

Blunders(-3)
B1: Misplaced decimal .
B2: Divides by 8.

Slips(-1)
S1: Each numerical error to a max. of -3.

Attempts(2)
A1:€0.78 ± 8

QUESTION 2

Part (a)	**(5,5,5,5,5) marks**	**Att (2,2,2,2,2)**
Part (b)	**(5,5,5,5,5) marks**	**Att (2,2,2,2,2)**

Part (a) **(5,5,5,5,5) marks** **Att (2,2,2,2,2)**

Fill in the five missing details on the payslip, using the information for **week Number 2** from the tax deduction card.

Part (a) (i) **5 marks** **Att 2**

(a) (i) Tax = €46.67

Blunders(-3)
B1: Answer from column G, H or I + possible S1.

Slips(-1)
S1: Answer from incorrect row. (week 1 or week 3)
S2: Answer from incorrect tax column (J, L, K, M,N) + possible S1.

Worthless(0)
W1: Answer = any amount from the payslip.

Part (a) (ii) **5marks** **Att 2**

(a) (ii) Total Deductions = 46.67 + 14.22 + 12.45
= €73.34

* Accept candidate's answer from part (a) (i)
* Accept correct answer with no work

Blunders(-3)
B1: Subtracts instead of adds.
B2: Misplaced decimal.

Slips(-1)
S1: Each numerical error to a max. of –3.
S2: Each amount omitted to a max. of -3.
S3: Answer = 146.68 (73.34 × 2)
S4: Each excess amount included to a max. of -3.

Part (a) (iii) **5 marks** **Att 2**

(a) (iii) Nett Pay = 475.45 – 73.34 = €402.11

* Accept candidates answer from parts (a) (i) and (a)(ii)
* Accept correct answer with no work.

Blunders(-3)
B1: Adds insteads of subtracts.
B2: Misplaced decimal.

Slips(-1)
S1: Each numerical error to a max. of –3.

Attempts(2)
A1: Answer = 73.34 and stops.
A2: Answer = 475.45 and stops.

Part (a) (iv) **5 marks** **Att 2**

(a)(iv) YEAR TO DATE TOTALS Tax Credit = €96.84

Blunders(-3)
B1: Answer from column G,H,I + possible S1.
B2: Answer = 290.52 (total from column M)
B3: Answer = 2518.

Slips(-1)
S1: Using incorrect row.
S2: Answer from column J,K,L,N,O + possible S1.

Part (a) (v) **5 marks** **Att 2**

(a)(v) YEAR TO DATE TOTALS Cut – Off Point = 1084.62

Blunders(-3)
B1: Answer from incorrect column + possible S1.
B2: Answer = 3253.86 (total from column I)
B3: Answer = 28200.

Slips(-1)
S1: Incorrect row.

Part (b) **(5,5,5,5,5) marks** **Att (2,2,2,2,2)**

Fill in the missing details for **week number 3** on the Tax Deduction Card.

(b)(i) **5marks** **Att 2**

(b) (i) COLUMN H
965.05 + 486.30 = €1451.35
or 489.60 + 475.45 + 486.30
= €1451.35

* Accept correct with no work

Blunders(-3)
B1: Subtracts instead of adds.
B2: Misplaced decimal.

Slips(-1)
S1: Answer = 1454.65 (489.6 + 965.05)
S2: Each numerical error to a max. of –3.

Attempts(2)
A1: Answer = 486.30
A2: 965.05<Answer < 1451.35

Part (b)(ii) **5 marks** **Att 2**

(b) (ii) COLUMN J
1451.35 × 20%
= €290.27
or (486.30 × 20%) + 193.01
= 97.26 + 193.01
= €290.27

* Accept correct with no work.
* Accept candidate's answer from part (b) (i)

Blunders(-3)
B1: Answer = 486.30 × 20% (97.26)
B2: Misplaced decimal.
B3: Uses 1626.93 (Column I)

Slips(-1)
S1: Each numerical error to a max. of –3.
S2: Calculates 120%.
S3: Gets 42% instead of 20%.

Attempts(2)
A1: Gets 20% of a relevant number.
A2: Answer = 290.93(97.92 + 193.01)
A3: Answer = 193.01

Part (b)(iii) **5 marks** **Att 2**

(b) (iii)	CUMULATIVE GROSS TAX = €290.27

* Accept candidates answer from part (b)(ii)

Attempts(2)
A1: Answer = 20% or 42% of answer given for (b)(ii).
A2: Answer = another amount from row 3.

Worthless(0)
W1: Answer = any other number

Part (b)(iv) **5 marks** **Att 2**

(b) (iv)	TOTAL TAX CREDIT = 290.27 – 145.26 = €145.01

* Accept candidates answer from part (b)(iii)
* Accept correct answer with no work.

NOTE
Subtract candidate's answers for (b)(iii) and (b) (iv)
Check:
(i) correct gets 5marks
(ii) any other number from Tax Deduction Card = Att 2 marks
(iii) None of the above = 0 marks.

Part (b)(v) **5 marks** **Att 2**

(b) (v)	TOTAL CUT – OFF = 145.01 – 96.17 = €48.84	or	145.01 – (46.67 + 49.50) = 145.01 – 96.17 = €48.84

* Accept candidates answer from part (b)(iv)
* Accept correct answer with no work.

NOTE:
Subtract/add candidate's answers for (b)(v) and (b)(iv).
Check:
(i) Answer = 96.17 = 5 marks
(ii) Answer = another on the Tax Deduction Card = Att 2 Marks
(iii) None of the above = 0 marks

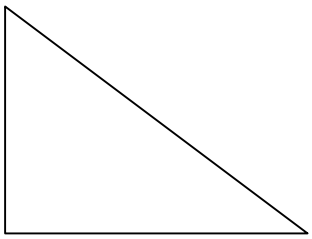
QUESTION 3

Part (a)	**10 marks**	**Att 3**
Part (b)	**10 marks**	**Att 3**
Part (c)	**10 marks**	**Att 3**
Part (d)	**10 marks**	**Att 3**
Part (e)	**5 marks**	**Att 2**
Part (f)	**5 marks**	**Att 2**

Part (a) **10 marks** **Att 3**

Construct a triangle in which - one side is 3 cm
- another side is 4 cm
- the angle between these two sides is 90º

(a) **10marks** **Att 3**



* tolerance ± 0.1 cm

Blunders(-3)
B1: Two correct sides drawn only.
B2: Side outside tolerance of 0.5 cm applied each time.

Slips(-1)
S1: Incorrect units.
S2: Each side outside tolerance of 0.1 cm unless B2.

Attempts(3)
A1: One side, correct or incorrect, drawn only.
A2: Triangle not drawn with straight edge.

Part (b) **10 marks** **Att 3**

Write down the length of the third side.

(b) **10marks** **Att 3**

(b) 5 cm.

* Accept hypotenuse in candidate's diagram .
* tolerance ± 0.1 cm
* Accept correct answer with no diagram.

Slips(-1)
S1: Side measured between tolerance 0.1 cm and 0.5 cm otherwise worthless.
S2: Incorrect or omitted units.

Worthless (0)
W1: Incorrect answer with no diagram.
W2: answer = 3, or 4 not relevant to candidate's diagram

Part (c) **10 marks** **Att 3**

Find the area of the triangle using Area = $\frac{1}{2}$(base × height)

(c) **10 marks** **Att 3**

(c) Area $= \frac{1}{2}(4 \times 3)$

$= \frac{1}{2}(12)$

$= 6\ \text{cm}^2$

* Accept correct answer with no work.
* Accept candidate's height from part (a)
* tolerance ± 0.1 cm.

Blunders(-3)

B1: Mishandles or omits $\frac{1}{2}$.
B2: Correct substitution and stops.
B3: Incorrect base or height.
B4: Height measured outside tolerance of 0.5 cm.

Slips(-1)
S1: Each numerical error to a max. of -3
S2: Incorrect or omitted units.
S3: Height measured between 0.1 cm and 0.5 cm.

Attempts(3)
A1: One correct substitution and stops.

Part (d) **10 marks** **Att 3**

David has fourteen socks in a box. Eight are black and the rest are white. David picks out a sock at random. Find the probability that the sock is white.

Part (d) **10 marks** **Att 3**

(d)	$\frac{6}{14}$ or $\frac{3}{7}$

* Accept 6:14, 6 in 14, 6 out of 14, 6 of 14.
* Accept 3:7, 3 in 7, 3 out of 7, 3 of 7.

Blunders(-3)

B1: No fraction or ratio set up.

B2: Answer = 6 or 3 + B1.

B3: Answer = 14 or 7 + B1.

B4: Answer = $\frac{14}{6}$ or $\frac{7}{3}$.

B5: Answer = 6 to 14 or 3 to 7.

B6: Answer = $\frac{1}{14}$ or $\frac{1}{7}$.

Slips(-1)

S1: Answer = $\frac{8}{14}$ or $\frac{4}{7}$.

S2: Answer in decimal form truncated or rounded..

Attempts(3)

A1:Any proper fraction other than $\frac{6}{14}, \frac{14}{6}, \frac{1}{14}, \frac{8}{14}, \frac{3}{7}, \frac{7}{3}, \frac{1}{14}, \frac{4}{7}$.

A2: Answer = 1 in 6.

A3: Answer 1 - 14.

Part (e) **5 marks** **Att 2**

A coin is tossed. Write down the probability of getting a *tail*.

(e) **5 marks** **Att 2**

(e) $\frac{1}{2}$

* Accept 1:2, 1 in 2 chances.
* Accept answer = 50% or 0.5

Blunders(-3)
B1: No fraction or ratio set up.
B2: Inverts answer.
B3: Answer = 50.

Slips(-1)
S1: Answer = 50:50
S2: Answer = evens.

Attempts(2)

A1:Any proper fraction other than $\frac{1}{2}$.

A2: Answer = 2 or 1.

Part (e) **5 marks** **Att 2**

The coin is tossed 400 times. How many times would you expect to get a *tail*.

(e) **5 marks** **Att 2**

(e) $400 \times \frac{1}{2}$
$= 200$ times

* Accept candidate's answer from part (f).
* Accept correct answer with no work.

Blunders(-3)
B1: Divides by 400.
B2: Inverts $\frac{1}{2}$.

Slips(-1)
S1: Each numerical error to a max. of -3.

Attempts(2)

A1: Answer = $\frac{200}{400}$.

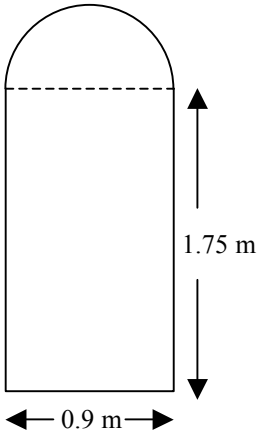
Worthless(0)
W1: Answer = 400.
W2: Answer = 2.
W3: Answer = $\frac{2}{400}$

QUESTION 4

Part (a)	**10 marks**	**Att 3**
Part (b)	**10 marks**	**Att 3**
Part (c)	**10 marks**	**Att 3**
Part (d)	**10 marks**	**Att 3**
Part (e)	**10 marks**	**Att 3**

Part (a) **10marks** **Att 3**

A hall door is in the shape of a rectangle with a semi-circle on top, as shown in the diagram.



The rectangular section measures 0.9 m × 1.75 m. Calculate the area of the rectangular section.

Part (a) **10marks** **Att 3**

(a) Area = 0.9 m × 1.75 m
= 1.575 m^2

* Accept correct answer with no work.

Blunders(-3)
B1: Incorrect length and continues.
B2: Incorrect width and continues.
B3: 0.9 × 1.75 and stops + possible S2.
B4: Misplaced decimal.

Slips(-1)
S1:Each numerical error to a max. of -3.
S2: Incorrect or omitted units.

Attempts(3)
A1: 0.9 ± 1.75.
A2: Calculates perimeter correct/incorrect.

Part (b) **10 marks** **Att3**

The diameter of the semi-circle measures 0.9 m. Calculate the area of the semi-circular section, taking $\pi = 3.14$.

(b) **10 marks** **Att 3**

(b) Area $= \frac{1}{2}\left(\pi r^2\right)$

Area $= \frac{1}{2}(3.14 \times 0.45^2)\ m^2$

$= \frac{1}{2}(3.14 \times 0.2025)\ m^2$

$= \frac{1}{2}(0.63585)\ m^2$

$= 0.317925\ m^2$

* Accept answer = 0.31808625 (using the π button)
* Accept answer using $\pi = \frac{22}{7}$.

Blunders(-3)
B1:Radius = diameter .
B2: 2r for r^2.
B3: Correct substitution and stops + possible S2.
B4: Radius = ½(length)
B5: Failure to substitute for π and continues.
B6: Area = ½(π r) and continues.
B7: Misplaced decimal.
B8: Mishandles or ignores ½.

Slips(-1)
S1: Each numerical error to a max. of -3.
S2: Incorrect or omitted units.
S3: Truncates or rounds.

Attempt(3)
A1: Answer = 3.14 r^2 and stops.

Part (c) **10 marks** **Att3**

Calculate the total area of the front of the door, correct to one decimal place.

(c) **10 marks** **Att 3**

$1.575\ m^2 + 0.317925\ m^2$ $= 1.892925\ m^2$ $= 1.9\ m^2$.

* Accept candidate's answer from part (a) and part (b).
* Accept correct answer with no work.

Blunders(-3)
B1: Subtracts instead of adds.
B2: Misplaced decimal.

Slips(-1)
S1: Each numerical to a max. of -3.
S2: Incorrect or omitted units.
S3: Incorrect rounding or failure to round.

Attempt(3)
A1: Answer = one of the areas only
A2: Multiplies the areas.

Part (d) **10 marks** **Att 3**

A painter has to paint the front of 80 such doors. Calculate the total area to be painted.

(d) **10 marks** **Att 3**

(d) $1.9\ m^2 \times 80 = 152\ m^2$

* Accept candidate's answers for parts (c).
* Accept correct answer with no work.

Blunders(-3)
B1: Uses answers from part (a) or part (b).
B2: Numbers of doors ≠ 80.
B3: Misplaced decimal.

Slips(-1)
S1: Each numerical error to a max. of -3..
S2: Incorrect or omitted units.

Attempt(3)
A1: Answer = $1.9\ m^2$.
A2: Answer = $1.9\ m^2 \pm 80$.

Part (e) **10marks** **Att 3**

Each door needs three coats of paint. Each tin of paint covers 14 m^2 with one coat. How many tins of paint must be bought to paint the doors?

Part (e) **10marks** **Att 3**

(e)

$152\ m^2 \times 3$

$= 456\ m^2 \div 14\ m^2$

$= 32.57$

$= 33$ tins.

* Accept candidate's answer from part (d).
* Accept correct answer with no work.

Blunders(-3)
B1: Mishandles or ignores 3 + possible S2.
B2: Mishandles or ignores 14 + possible S2
B3: Misplaced decimal.

Slips(-1)
S1: Each numerical to a max. of –3.
S2: Failure to round or rounds incorrectly.

Attempt(3)
A1:Answer = $14 \div 3$, correct or incorrect.

Worthless(0)
W1: Answer = $14^2 = 196$.

QUESTION 5

Part (a)	**15 marks**	**Att 5**
Part (b)	**15 marks**	**Att 5**
Part (c)	**20marks**	**Att 6**

Part (a) **15 marks** **Att 5**

Calculate the daily hours worked by Anne Murphy each day and write your answers On her Time Card.

Part (a) **15 marks** **Att 5**

(a)

	Sat.	Sun.	Mon.	Tues.	Wed.	Thurs.	Fri.
Daily Hrs	6:00	1:30	6:40	8:20	8:45	8:55	6:20

Blunders(-3)
B1: Adds / mishandles / ignores 1 hour lunch break unless S2.

Slips(-1)
S1: Each incorrect time assuming at least one correct.
S2: Ignores 1 hr Lunch break in Daily Hours but rectifies it in the Summary section.

Attempt(5)
A1: Any effort to subtract two times.

NOTE:
If at least one answer correct than slip each incorrect answer. Only exceptions are B1 or S2. For either of these to apply, there must be no other errors present and the error must be consistent across all 5 days.

Part (b) **15 marks** **Att 5**

Anne's standard week is 37 hours. Complete the **SUMMARY** section of the Time Card to show the number of weekend hours, standard hours and overtime hours Anne worked.

(b) **15 marks** **Att 5**

(b) **SUMMARY:**

Total Sat/Sun Hours	**7:30**	Total weekday hours			**39**		
		Weekday standard	37	hrs	Weekday overtime	**2**	hrs

* Accept candidate's answer from part (a).

Blunders(-3)
B1: 1 hour = 100 minutes.
B2: Failure to subtract 37 hours to calculate overtime
B3: Failure to calculate Sat/Sun hrs.
B4: Sat/Sun. hours included in Weekday overtime.
B5: Fails to calculate weekday overtime +B2.
B6: Failure to calculate Total weekday hours + possible B5.
B7: In calculating weekday overtime ignores minutes.

NOTE:
Only apply B3 or B4, not both.

Slips(-1)
S1: Hours filled into (c) but omitted in Summary.
S2: Each numerical error to a max. of -3.

Attempt(5)
A1: Adds/attempts to add time for 2 days.

Worthless(0)
W1: A start and/or finishing time filled into Time Card.

NOTE:
Proceed as follows to check weekday overtime:

1. Add candidate's own times from Mon. to Fri. and subtract 37 hours.
2. Check for (i) correct, or (ii) B2, or (iii) B4.
3. Repeat the above two steps using 1 hour = 100 mins.

Part (c) **20marks** **Att 7**

Anne is paid €7.40 per hour for standard working hours. She is paid time and a half for weekday overtime. She is paid double time for Saturday and Sunday work. Fill in the table below to calculate her gross earnings for the week.

(c) **20 marks** **Att 7**

(c) Fill table and calculate gross earnings.

Standard week	37	hrs	@	€7.40	= € **273.80**
Sat/Sun	**7.5**	hrs	@	€**14.80**	= € **111.00**
Overtime	**2**	hrs	@	€**11.10**	= € **22.20**
Gross Earnings					= € **407.00**

* Accept candidate's answer from part (b)

Blunders(-3)
B1: Time and a half = 0.5(rate).
B2: Divides by 1.5 instead of multiplying (applied once only).
B3: Failure to calculate gross earnings having filled out rest of the table.
B4: Having filled in the hours and the rate fails to calculate.
B5: Ignores Sat/Sun. section + B4.
B6: Ignores Overtime section + B4
B7: Divides rate by the number of hours, once only.
B8: Failure to use overtime multipliers each time.
B9: Misplaced decimal.
B10: 1 hour = 100 mins.
B11: Part (b) blank and invents numbers for Sat/Sun hours.
B12: Part (b) blank and invents numbers for Overtime hours.
B13: In transferring hours, candidate ignores the minutes.

Slips(-1)
S1: Each numerical error to a max. of –3.
S2: Failure to round or incorrect rounding.

Misreadings(-1)
M1: Uses double time for weekdays and time and half for Sat/Sun.

Attempts(7)
A1: Fills in hours only.
A2: Fills in one rate only.
A3: 37 ± €7.40.

Worthless(0)
W1: Answer = €7.40.