1.	The cost c , in Australian dollars (AUD), of renting a bungalow for n weeks is given by the
	linear relationship $c = nr + s$, where s is the security deposit and r is the amount of rent per
	week.

Ana rented the bungalow for 12 weeks and paid a total of 2925 AUD.

Raquel rented the same bungalow for 20 weeks and paid a total of 4525 AUD.

Find the value of

- (a) r, the rent per week;
- (b) s, the security deposit.

Working:	
	Answers:
	(a)
	(b)
	(Total 8 marks

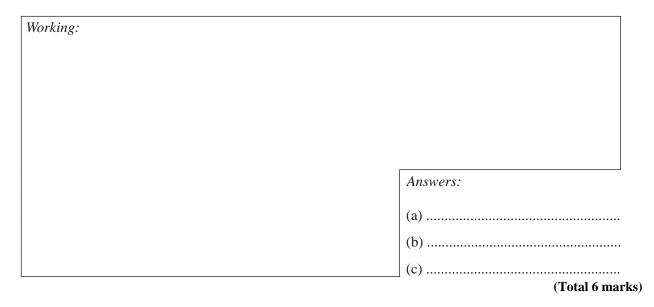
- **2.** Keisha had 10 000 USD to invest. She invested *m* USD at the *Midland Bank*, which gave her 8% annual interest. She invested *f* USD at the *First National Bank*, which gave 6% annual interest. She received a total of 640 USD in interest at the end of the year.
 - (a) Write two equations that represent this information.

Wor	rking:	
		Answers:
		(a) (b)
		(Total 8 ma
he f	fourth term of an arithmetic sequence is	12 and the tenth term is 42.
a)	Given that the first term is u_1 and the u_1 and d that satisfy this information	common difference is d , write down two equations n .
b)	Solve the equations to find the values	of u_1 and d .
Wor	rking:	
		Answers:
		Answers: (a)
		(a)

3.

(Total 8 marks)

- **4.** Jacques can buy six CDs and three video cassettes for \$163.17 or he can buy nine CDs and two video cassettes for \$200.53.
 - (a) Express the above information using two equations relating the price of CDs and the price of video cassettes.
 - (b) Find the price of one video cassette.
 - (c) If Jacques has \$180 to spend, find the exact amount of change he will receive if he buys nine CDs.



1. (a)
$$2925 = 12r + s$$
 (M2) $4525 = 20r + s$ (M2) $1600 = 8r$ $200 = r$ (A2)(C6)

(b)
$$2925 = 12(200) + s$$

 $525 = s$ (A2)(C2)

Note: Award (C2)(C2) if the candidate correctly solves an incorrect system of equations.

[8]

2. (a)
$$0.08 m + 0.06 f = 640$$
 (A2) (C2) $m + f = 10 000$ (A2) (C2)

(b)
$$8m + 6f = 64\,000$$

 $-8m - 8f = 80\,000$ (M1)
 $-2f = -16\,000$ (M1)(C2)
 $f = 8000$ or \$8000 at First National Bank (A1)
 $m = 2000$ or \$2000 at Midland Bank (A1)(C2)

Note: Allow **ft** from part (a).

3. (a)
$$u_1 + 3d = 12$$
 (A1)(A1)
 $u_1 + 9d = 42$ (A1)(A1) (C4)

Note: Award (A1) for left hand side correct, (A1) for right hand side correct.

(b)
$$6d = 30$$
 (A1) $d = 5$ (A1) (M1)(A1)

Note: Follow through (ft) from candidate's equations.

[8]

4. (a)
$$6C+3V = 163.17$$
 (A1) $9C+2V = 200.53$ (A1) (C2)

Note: If both addition signs missing, award (A0)(A1)(ft)

(b) GDC use is expected.

Solve simultaneously to find
$$V = \$17.69 (\$17.7)$$
 (M1)(A1)(ft) (C2) $\$18.35$ here receives (A0)

Note: A reasonable attempt to solve on paper without the GDC can receive (M1).

(c)
$$9 \times 18.35 = 165.15$$
 (M1)
$$180 - 165.15$$

$$= $14.85 ($14.9)$$
 (A1)(ft) (C2)

Note: If C and V are reversed in (b) and (c) all the marks can be treated as (ft) in (c), however, if the same wrong answer for C appears in both (b) and (c) then (c) can receive at most (M1)(A0). In the former case the answers are \$159.21 and \$20.79 respectively.

[6]