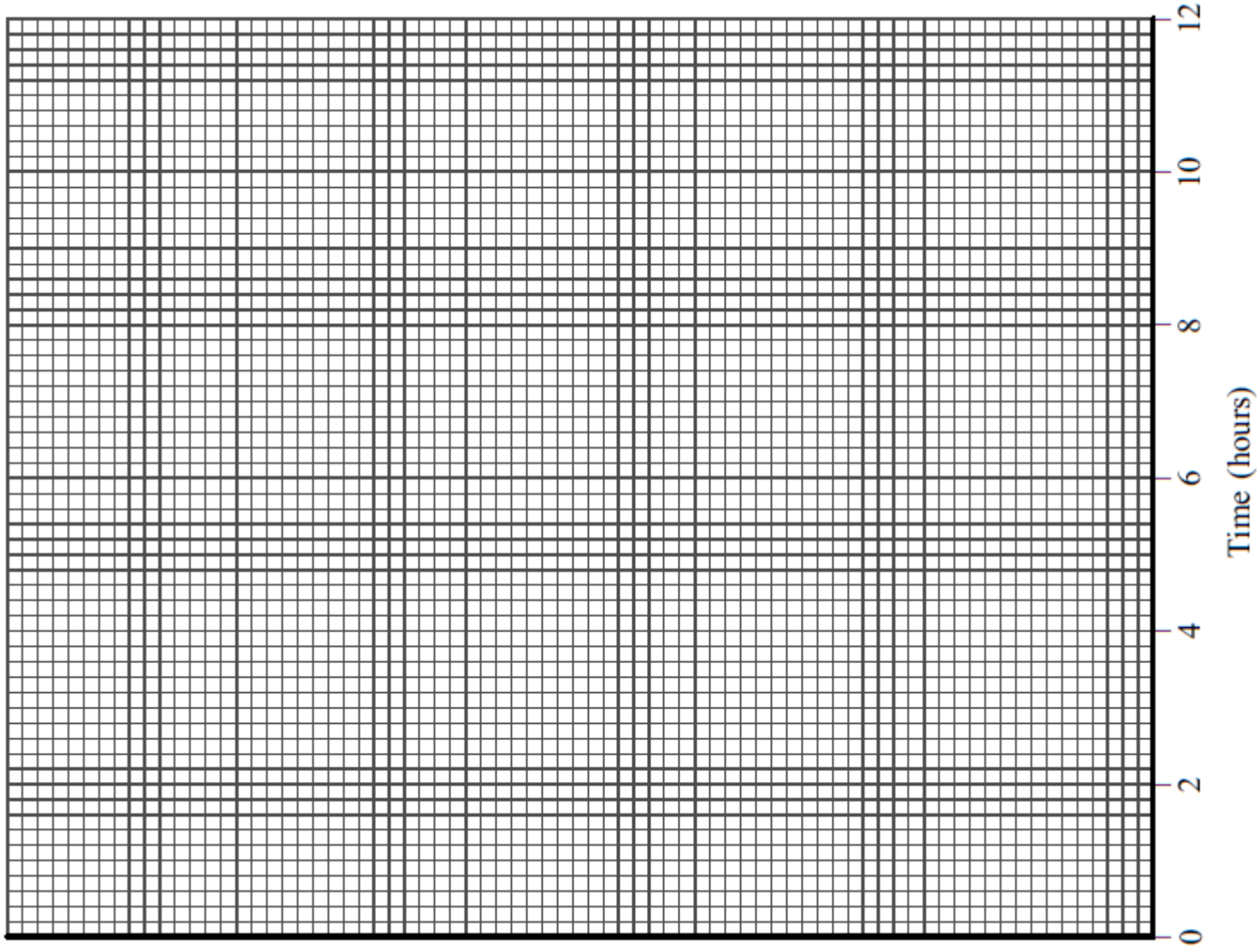


4)



Homework 9B – Solutions

1)

Q	Solution	Marks	Total	Comments
1(a)		M1 A1 A1	3	Network, at least 9 activities and some arcs Up to 2 independent errors All correct
1(b)		M1 A1	2	Forward pass, correct at D All correct
1(c)		M1 A1	2	Back pass, correct at H, I, J ft All correct
1(d)	(Critical) A C D G H I K	B1	1	
1(e)		M1 B1F A1	3	SCA at least 7 activities 2 or more floats seen All correct
Total			11	

2)

Solution	Marks	Total	Comments
$11.69 \times \frac{4.4}{100}$ $11.69 + \text{their } (0).51$ £12.20	M1 M1 A1	3	$11.69 \times 0.044 (=0.514\dots) = M1$ $11.69 \times 1.044 = M2$ $12.21 \text{ or } 12.2 = SC2$ $12.20p = A0$

3

3)

Solution	Marks	Total	Comments
Interest in first year is $\pounds 3000 \times 1.45\%$ $= \pounds 43.50$ Amount at end of first year is $\pounds 3043.50$ Interest in second year is $\pounds 3043.50 \times 1.45\%$ $= \pounds 44.13$ Amount at end of second year is $\pounds 3087.63$ Final amount at end of third year is $\pounds 3132.40$ The interest is $\pounds 132.40$	M1 A1 A1	3	Or Amount is 3000×1.0145^3 $= \pounds 3132.40$ Do not accept $\pounds 132.40$
Total		3	

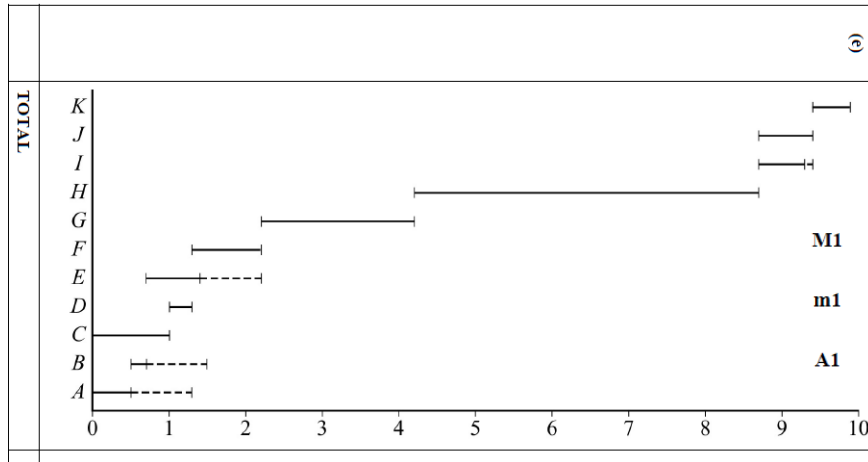
3

4)

Solution	Marks	Total	Comments
	M1 A2,1,0 M1 A1 M1 A2,1,0		Network Early Late Ft on 1 mi

(d)	Critical C, D, F, G, H, J, K Length = 9.9	B1 B1F
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11



13

- 5) (a) Assume that each guest will have $\frac{1}{2}$ to 2 drinks on average per hour. ✓
 $\frac{1}{2} \times 4 \times 100 = 200$ to $2 \times 4 \times 100 = 800$ drinks ✓ answer between 200 and 800
- (b) Assume each drink will cost between £1 to £3 on average. ✓
 $100 \times £1 = £100$ to $800 \times £3 = £2,300$ ✓ answer between £100 and £2,300
- (c) eg If I assumed each drink was more expensive the cost would go up. If I assumed people would drink less then the cost would go down. ✓ (5)

6) (a)	Rounding errors	B1	
(b)	142732×0.2458 35083 or 35084	M1 A1	Integer 35 100 (3 sf)
(c)	Use of 11.62 $\frac{2990}{11.62} \times 100$ (or 99.99) 25700 or better from 25 731.497 Or 25 729 or 25 728.924...	M1 M1 A1	Or 0.1162 oe
(d)	No, with a reason valid reason eg there may be fewer households in Castle Morpeth than other areas.	B1 E1	oe
TOTAL		8	

TOTAL: 43

8