Numerical Reasoning Test 1 - Solutions

1

Grade A 2009	=	25,000 ÷ 50 × $500	=	$250,000
Grade C 2009	=	80,000 ÷ 50 × $150	=	$240,000
		Total	=	**$490,000**

2

20,000 Widgets × 1.26 = 25,200 Widgets

25,200 ÷ 50 × $300 = **$151,200**

3

Grade A : Grade C

Grade A:

20,000 ÷ 50 × $500 = $200,000

Grade C:

75,000 ÷ 50 × $150 = $225,000

Grade A : Grade B

$200,000 : $225,000

$$= \frac{\$200,000}{\$225,000}$$

= 0.8888

= **0.89.1**

4

Grade C 2010 = 70,000 ÷ 50 × $150

= $210,000

Grade B 2012 = 20,000 ÷ 50 × $300

= $120,000

$210,000

\+ $120,000

$330,000

= **$330k**

5 Step 1 – Calculate the reduced Standard and Premium fees for each London location

London (Outer)
Standard price x.75 = £37.50
Premium price x 60% = £36.15

London (City)
Standard price x.75 = £49.13
Premium price x 60% = £45.45

Step 2 – Calculate the rental costs in each location

London (Outer); £37.50 + £10.00 + £36.15 + £12.29 = £95.94
London (City); £49.13 + £12.49 + £45.45 + £19.95 = £127.02

Step 3 – Sum the totals above
£95.94 + £127.02 = £222.95 = £223 (to the nearest £)

Thus the correct answer is, £223

6 Step 1 – Calculate the monthly Standard cost for each location
Leeds: £35 + £8 x 20 = £716
Brighton: £32.50 + £8 x 20 = £616
Paris: (€ 50.00 + 18 /1.15) x 20 + £125 = £1,307
New York: ($ 75.00 + 18.50 x 20)/1.6 + £125 = £1,293.75
London (Outer): £50.00 x 20 = £1,000
London (City): £65.50 x 20 = £1,310

Step 2 - Calculate the monthly Premium cost for each location
Leeds: £45.50 + 10.75 x 20 = £1,125
Brighton: £42.00 + 10.25 x 20 = £1,045
Paris: (€ 65.75 + 18/1.15) x 20 + £125 = £1,582
New York: ($ 95.00 + 18.5 /1.6) x 20 + £125 = £1,543
London (Outer): £60.25 +12.29 x 20 = £1,080
London (City): £75.75 + 19.95 x 20 = £1,914

Step 3 – Review to determine how many office locations

Thus the correct answer is, 2

7 Step 1 – Calculate the multiple when renting two thousand square feet
2,000 / 100 = 20 multiple

Step 2 – Total the cost for renting 100 square feet of Standard office space at each UK location
£35 + £32.50 + £50 + £65.50 = £183

Step 3 – Calculate the total UK daily cost
£183 x 20 = £3,660

Thus the correct answer is, £3,660

8 Step 1 – Calculate the new overall Standard and Premium fee for each London location
London (Outer): £50 + £10.00 + £5 = £65
London (City): £65.50 + £12.49 = £77.99

Step 2 – Calculate the average
(£65 + £77.99) / 2 = £71.50

Step 3 - Calculate the average for the original overall Standard and Premium fee for each London location
(£60 + £77.99) / 2 = £69

Step 4 – Calculate the % increase
71.5 - 69 / 69 = 3.6% = 4% (to the nearest %)

Thus the correct answer is, 4%

9
2011 = 12% × $1.45m = $174,000
2012 = 18% × $2m = $360,000
= **$534,000**

10
2011 = 30% × $1.45m = $435k
2012 = 24% × $2m = $480k
$480k - $435k = **$45k**

11
Bloom Plc 2012 = 25% × $2m = $500k
Tade Hd 2012 = 13% × $2m = $260k
Total = **$760k**

12

2011 = 26% × $1.45m = $377k
2012 = 20% × $2m = $400k

$400k-$377k = $23k

= $23k

$\frac{\$23K}{\$377k}$ x 100

= **6.1%**

13

35cm
30cm
20cm
30cm
115cm

$\frac{30cm}{115cm}$ x 100 = **26%**

14

Nov = 20cm
Jan = 25cm

25-20 = 5cm

$\frac{5cm}{20cm}$ x 100 = **25%**

15

(35cm + 40cm) × 1.2 = 90cm
(20cm + 5cm) × 0.85 = + 21.25cm
Total = **111.25cm**

16

Dec = 30cm + 15cm = 45cm
Feb = 40cm + 5cm = 45cm

Total = **90cm**

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17 Step 1 – Calculate the number of billable days for each consultant
Kim: 148 / 7 = 21.1
Kris: 130 / 7 = 18.6
Sam: 145 / 7 = 20.7
Tim: 134 / 7 = 19.1
Trevor: 124 / 7 = 17.7

Step 2 – Calculate the May fees for each consultant
Kim: 650 x 21.1 = £13,715
Kris: 1,120 x 18.6 = £20,832

Sam: 950 x 20.7 = £19,665
Tim: 1,020 x 19.1 = £19,482
Trevor: 1,090 x 17.7 = £19,293

Thus the correct answer is, Kris

18 Step 1 – Sum each month's figures from the histogram
June: 90,000
July: 73,000
August: 86,500
September: 89

Step 2 – Calculate May's total from the table of figures
13,743 + 20,800 + 19,679 + 19,526 + 19,309 = 93,057

Thus the correct answer is, May

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19 Step 1 – Calculate each consultant's average fees per day (June)
Kim: 18.5 / 20 = .93
Kris: 19 / 20 = .95
Sam: 16.5 / 20 = .83
Tim: 17 / 20 = .85
Trevor: 19 / 20 = .95

Step 2 – Calculate each consultant's average fees per day (July)
Kim: 17 / 22 = .77
Kris: 10.5 / 22 = .48
Sam: 16 / 22 = .73
Tim: 11.5 / 22 = .52
Trevor: 18 / 22 = .82

Step 3 – Calculate each consultant's average fees per day (August)
Kim: 20.5 / 21 = .98
Kris: 18 / 21 = .86
Sam: 16.5 / 21 = .79
Tim: 19.5 / 21 = .93
Trevor: 12 / 21 = .57

Thus the correct answer is,6 times

20 Step 1 – Sum the total mileage claimed for Kim, Sam and Trevor
350 + 430 + 388 = 1,168 miles

Step 2 – Sum the travel expenses for Kris and Tim
528 + 296 = 824 miles

Step 3 – Subtract the 2 totals
1,168 – 824 = 344 miles

Step 4 – Calculate the mileage expense payable
40p x 344 = £137.60 = £140 (to the nearest £10)

Thus the correct answer is, £140

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