## Numerical Reasoning Free Test 1

## Instructions

This numerical reasoning test comprises 30 questions, and you will have 30 minutes in which to correctly answer as many as you can. Calculators are permitted for this test, and it is recommended you have some rough paper to work on.

You will have to work quickly and accurately to perform well in this test. If you don't know the answer to a question, leave it and come back to it if you have time. Each question will have five possible answers, one of which is correct. You may click Back and Next during the test to review or skip questions.

You can submit your test at any time. If the time limit is up before you click submit the test will automatically be submitted with the answers you have selected. It is recommended to keep working until the time limit is up.

Try to find a time and place where you will not be interrupted during the test. The test will begin on the next page.

Share Prices

|  | Today's Price <br> (Euros) | \% Change <br> (from yesterday) | Maximum price <br> in Euros <br> (last 12 months) | Minimum price <br> in Euros <br> (last 12 months) |
| :--- | :---: | :---: | :---: | :---: |
| Huver Co. | 1,150 | $1.10 \%$ | 1,360 | 860 |
| Drebs Ltd | 18 | $0.50 \%$ | 22 | 11 |
| Fevs Plc | 1,586 | $-9.00 \%$ | 1,955 | 1,242 |
| Fauvers | 507 | $-1.00 \%$ | 724 | 464 |
| Steapars | 2,537 | $1.00 \%$ | 2,630 | 2,216 |


| Dividend paid per share <br> (Euros) | Huver Co. | Drebs Ltd | Fevs Plc | Fauvers | Steapars |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Interim Dividend | 0.83 | 0.44 | 0.34 | 0.09 | 0.48 |
| Final Dividend | 1.75 | 1.12 | 1.25 | 0.32 | 0.96 |

Note: the total annual dividend paid per share is the sum of the interim dividend and the final dividend

## Q1 Which share had the largest difference between highest and lowest price

 over the last 12 months?(A) Huver Co.
(B) Drebs Ltd
(C) Fevs Plc
(D) Fauvers
(E) Steapars

The information that we need is shown in the table Share Prices.
Step 1 - Calculate the difference between the maximum and the minimum prices.
Huver Co. $=1,360-860=500$
Drebs Ltd = 22-11 = 11
Fevs P/c $=1,955-1,242=713$
Fauvers $=724-464=260$
Steapars $=2,630-2,216=414$
Tip: Notice the wording of the question is asking for the share with the largest absolute change in price, NOT the largest percentage change, which would have been Drebs Ltd. If the question had wanted the percentage change it would have used the word percentage.

Thus the correct answer is (C) Fevs Plc

Share Prices

|  | Today's Price <br> (Euros) | \% Change <br> (from yesterday) | Maximum price <br> in Euros <br> (last 12 months) | Minimum price <br> in Euros <br> (last 12 months) |
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Note: the total annual dividend paid per share is the sum of the interim dividend and the final dividend

Q2 What was yesterday's cost difference between 50 shares in Fevs plc and 100 shares in Steapars?
(A) $€ 164,726$
(B) $€ 251,163$
(C) $€ 172,577$
(D) $€ 164,045$
(E) None of these

The information that we need is shown in the table Share prices.
Step 1 - Calculate yesterday's share price for each share:
Fevs plc $=1,586 \div 0.91=1,742.86$
Steapars $=2,537 \div 1.01=2,511.88$
Step 2 - Calculate the cost difference between 50 Fevs and 100 Steapars shares yesterday:
$50 \times 1,742.86=87,143$
$100 \times 2,511.88=251,188$
Difference $=251,188-87,143=164,045$
Tip: Percentage increases and decreases catch out a lot of people. For this question, think about what's happening. The percentage change from yesterday to today in the case of Fevs is a 9\% decrease. So that means (today's price) $\div$ (yesterday's price) $=0.91$ (a 9\% decrease). Using algebra we can recast this as yesterday's price $=$ today's price $\div 0.91$.

Thus the correct answer is (D) €164,045

Share Prices

|  | Today's Price <br> (Euros) | \% Change <br> (from yesterday) | Maximum price <br> in Euros <br> (last 12 months) | Minimum price <br> in Euros <br> (last 12 months) |
| :--- | :---: | :---: | :---: | :---: |
| Huver Co. | 1,150 | $1.10 \%$ | 1,360 | 860 |
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| :---: | :---: | :---: | :---: | :---: | :---: |
| Interim Dividend | 0.83 | 0.44 | 0.34 | 0.09 | 0.48 |
| Final Dividend | 1.75 | 1.12 | 1.25 | 0.32 | 0.96 |

Note: the total annual dividend paid per share is the sum of the interim dividend and the final dividend

Q3 Today's Drebs Ltd share price represents a 40\% increase on the price one month ago. What was the Drebs Ltd share price a month ago?
(A) $€ 22$
(B) $€ 25.20$
(C) $€ 12.68$
(D) $€ 12.90$
(E) $€ 12.86$

The information that we need is shown in the table Share prices.
Step 1 - Drebs Ltd's share price is shown as 18 Euros at today's prices.
This is a $40 \%$ increase and so represents 1.40 (140\%) of the price one month ago.
Step 2 - The price one month ago is calculated as follows:
$18 \div 1.40=12.86$.
Thus the correct answer is (E) €12.86

Share Prices

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| Huver Co. | 1,150 | $1.10 \%$ | 1,360 | 860 |
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| Fauvers | 507 | $-1.00 \%$ | 724 | 464 |
| Steapars | 2,537 | $1.00 \%$ | 2,630 | 2,216 |


| Dividend paid per share (Euros) | Huver Co. | Drebs Ltd | Fevs Plc | Fauvers | Steapars |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Interim Dividend | 0.83 | 0.44 | 0.34 | 0.09 | 0.48 |
| Final Dividend | 1.75 | 1.12 | 1.25 | 0.32 | 0.96 |

Note: the total annual dividend paid per share is the sum of the interim dividend and the final dividend

Q4 What is the annual dividend paid to the holder of 1,550 Drebs Ltd shares?
(A) Cannot say
(B) $€ 635$
(C) $€ 2,232$
(D) $€ 2,418$
(E) $€ 2,822$

Step 1 - Calculate total dividend per share
Interim dividend + Final dividend $=44+112=1.56$ Euros
Step 2 - Calculate total dividend for 1,550 shares
$1,550 \times 1.56=2,418$ Euros
Thus the correct answer is (D) $€ 2,418$

Share Prices

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| Dividend paid per share <br> (Euros) | Huver Co. | Drebs Ltd | Fevs Plc | Fauvers | Steapars |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Interim Dividend | 0.83 | 0.44 | 0.34 | 0.09 | 0.48 |
| Final Dividend | 1.75 | 1.12 | 1.25 | 0.32 | 0.96 |

Note: the total annual dividend paid per share is the sum of the interim dividend and the final dividend

Q5 If the exchange rate is $€ 1.15$ to the $£$, what is today's value of 250 Drebs Ltd shares (in £s)?
(A) $£ 4,500$
(B) $£ 2,875$
(C) $£ 2,785$
(D) $£ 3,931$
(E) $£ 3,913$

Step 1 - Calculate today's price of 250 Drebs Ltd shares.
$250 \times 18$ Euros $=4,500$ Euros
Step 2 - Calculate the price in $£ s$
$4500 \div 1.15=£ 3,913$
Thus the correct answer is (E) $£ 3,913$


If a driver travels an average of 4,250 miles per month driving along motorways in an Xtam car, what is the predicted annual consumption of fuel (in gallons)?
(A) Cannot say
(B) 1,500
(C) 125
(D) 150
(E) 1,250

The information that we need is shown in the graph Car Consumption.
Step 1 - The Xtam's fuel consumption is shown as 34 miles to the gallon for motorway driving.
So, 4,250 miles $\div 34=125$ gallons per month.
Step 2 - Annual petrol consumption $=125 \times 12=1,500$ gallons.
Thus the correct answer is (B) 1,500


| Car | Maximum speed (miles per hour) | Cost |
| :--- | :---: | :---: |
| Taber | 65 | $£ 12,500$ |
| Ursa | 60 | $£ 15,250$ |
| Velvo | 125 | $£ 37,500$ |
| Tink | 95 | $£ 55,250$ |
| Xtam | 110 | $£ 62,500$ |

Q7 A car dealership has $£ 600,000$ to spend and wants to buy equal numbers of the Taber and Ursa cars. What is the largest number of each type of car that can be ordered?
(A) 27
(B) 48
(C) 19
(D) 21
(E) 22

The information that we need is shown in the table.
Step 1 - The cost of the Taber and Ursa cars are $£ 12,500$ and $£ 15,250$ respectively.
Step 2 - Since the numbers of each car purchased must be equal, calculate the combined cost as follows: $£ 12,500+£ 15,250=£ 27,750$.

Step $3-£ 600,000 \div £ 27,750=21.6$.
Thus the correct answer is (D) 21


Q8 What is the ratio of the cost of a Taber: Velvo: Xtam?
(A) $2: 4: 5$
(B) $1: 4: 6$
(C) $1: 3: 5$
(D) $2: 3: 5$
(E) $1: 2: 3$

The information that we need is shown in the table.

Step 1 - Taber: Velvo: Xtam costs $=12,500: 37,500: 62,500$
Notice the common denominator here is 12,500 . So the ratio can be simplified to the following. 12,500/12,500:37,500/12,500: 62,500/12,500 = 1:3:5.

Thus the correct answer is (C) 1:3:5


Q9 A Tink car is taken on a test drive for 90 minutes around the city. If the average speed is 34 miles per hour approximately how much fuel is consumed?
(A) 1.5 gallons
(B) 2.5 gallons
(C) 2 gallons
(D) 0.5 gallons
(E) 1.75 gallons

The information that we need is shown in the graph Fuel Consumption.
Step 1 - The Tink's fuel economy (city driving) = 34 miles to the gallon.
Step 2 - Speed = distance / time.
34 miles per hour $=$ distance $/ 90$ mins $=$ distance $/ 1.5$ hours
So distance $=34 \times 1.5=51$ miles

Step 3 - Fuel consumed = (51 miles $\div 34$ miles per gallon) $=1.5$ gallons
Thus the correct answer is (A) 1.5 gallons


Q10 A family plans to spend a month driving around Scottish cities where the average cost of a gallon of petrol is $£ 4.75$. If the family drive 1,500 city miles in their Velvo, what would be the family's total petrol costs (to the nearest $£$ )?
(A) $£ 216.00$
(B) $£ 203.57$
(C) $£ 204.00$
(D) $£ 215.89$
(E) None of these

The information that we need is shown in the graph Fuel Consumption.
Step 1 - Velvo's fuel consumption (city driving) = 35 miles per gallon
$1,500 \div 35=42.86$ gallons required
Step 2 - Cost $=42.86 \times £ 4.75=£ 203.57$
To the nearest $£=£ 204$.
Tip: The fact that this is done in a month is irrelevant; sometimes the question deliberately contains redundant information.

Thus the correct answer is (C) £204



Q11 Legal sector spending on IT hardware, IT software and IT consulting are all set to increase by the same amounts in Year 6 as they did from Year 4 to Year 5. Assuming this is the case, what is the total legal sector spend in Year 6 on these three IT areas combined?
(A) $£ 75$ million
(B) $£ 85$ million
(C) $£ 95$ million
(D) $£ 105$ million
(E) $£ 110$ million

The information that we need is shown in the graph IT spending by the legal sector.
Step 1 - Calculate the increases in each IT spending category
IT hardware $=45$ (increase of $£ 5$ million from Year 4)
IT software $=30$ (increase of $£ 5$ million from Year 4)
IT consulting $=20$ (increase of $£ 5$ million from Year 4)
Step 2 - Calculate the total for the year after the projected year 5. Since there is an even increase the same increase of £5 million will occur in IT hardware, software and consulting. Total $=45+30+20+(3 \times 5)=£ 110$ million

Thus the correct answer is (E) $£ 110$ million



Q12 For years 1 to 3 inclusive, by how much did Make Fit Ltd's income from consultancy services differ from those of Pure Gap plc?
(A) $£ 110$ more
(B) $£ 110,000$ less
(C) $£ 1,100,000$ more
(D) $£ 110$ less
(E) $£ 1,100,000$ less

The information that we need is shown in the graph Income for IT consultancy services.
Step 1 - Total the income for each company across the three years 1, 2 and 3.
Make Fit Ltd $=290+180+260=730$
Pure Gap plc $=230+310+300=840$
$730-840=-110(£ 10,000$ 's)
Thus the correct answer is (E) $£ 1,100,000$ less



Q13 Which of the following statements is false regarding legal sector spending between Year 4 and projected Year 5?
(A) IT consulting will increase by $£ 5$ million.
(B) IT consulting will match that of year 2.
(C) IT software will exceed IT consulting.
(D) Spending on IT hardware will decline.
(E) None of these.

The information that we need is shown in the graph IT spending by the legal sector.
Step 1 - Check in turn whether each statement is true or false:
a) The projected spend on IT consulting is projected to increase by $£ 5$ million. Option $A$ is true.
b) The projected spend on IT consulting is $£ 5$ million, which matches year 2. Option B is true.
c) The projected spend on IT software is £30million and for IT consulting it's £20million. Option C is true.
d) There are increases projected for IT hardware, for IT software and for consulting. The option for $D$ is false.
e) We see that option $D$ is false, so $E$ cannot be the correct answer.

Thus the correct answer is (D) Spending on IT hardware, software and consulting is projected to decline.



Q14 In which year(s) did Make Fit Ltd and Pure Gap plc's combined IT consultancy income exceed $£ 6$ million?
(A) Year 1 and Year 4
(B) Only Year 4
(C) Year 1 and Year 3
(D) Only Year 3
(E) Year 3 and Year 4

The information that we need is shown in the graph Income for IT consultancy services.
Step 1 - Find the total for each of the years shown and see which years exceed £6million.
Make Fit Ltd and Pure Gap plc's combined IT consulting income
Year 1 $290+230(£ 10,000 \mathrm{~s})=£ 5.2$ million
Year $2 \quad 180+310(£ 10,000 \mathrm{~s})=£ 4.9$ million
Year $3 \quad 260+300(£ 10,000 \mathrm{~s})=£ 5.6$ million
Year $4 \quad 320+290(£ 10,000$ s $)=£ 6.1$ million
Thus the correct answer is (B) Only Year 4



Q15 If Pure Gap plc's income from consultancy in year 2 had been twice as big, what fraction would this have been of the combined income for both Pure Gap plc and Make Fit Ltd in year 2?
(A) $18 / 49$
(B) $31 / 40$
(C) $9 / 40$
(D) $4 / 9$
(E) $18 / 31$

The information that we need is shown in the graph Income for consultancy services.
Step 1 - Calculate Pure Gap's increased year 2 income.
Year 2 Pure Gap sales $=2 \times 310=620$.
Step 2 - Calculate combined year 2 income.
Pure Gap + Make Fit sales $=620+180=800$.
Step 3-Calculate the fraction
620/800 $=31 / 40$
Thus the correct answer is (B) 31/40

| IKE Computers <br> (Jamuary) | Actual (£) | Target (£) |
| :--- | :--- | :--- |
| Sales Turnover | 277,350 | 325,000 |
| Sales Tax (14.0\%) | 38,829 | 45,500 |
| Net Turnover | 238,521 | 279,500 |
| Labour Costs | 166,000 | 175,000 |
| Other Costs | 36,000 | 41,000 |
| Gross Profit | 36,521 | 63,500 |

January's Sales Turnover and Profit for IKE Computers in the UK.

Q16 If actual labour costs rise so as to halve their difference from the target, what will be the change in actual Gross Profit?
(A) Falls by $£ 4,500$
(B) Rises by $£ 4,500$
(C) No overall effect
(D) Rises by $£ 9,000$
(E) Falls by $£ 9,000$

Step 1 - Halve the labour costs discrepancy against target
(target labour costs - actual labour costs)/2 $=(175,000-166,000) / 2=£ 4,500$.
Step 2 - Calculate effect on Gross Profit
If labour costs rise by $£ 4,500$, then profit falls by $£ 4,500$.
Thus the correct answer is (A) Falls by $£ 4,500$

| IKE Computers <br> (Jamuary) | Actual (£) | Target (£) |
| :--- | :--- | :--- |
| Sales Turnover | 277,350 | 325,000 |
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| Other Costs | 36,000 | 41,000 |
| Gross Profit | 36,521 | 63,500 |

January's Sales Turnover and Profit for IKE Computers in the UK.

Q17 IKE Computers aim to grow monthly gross profit by $1.5 \%$. If all costs remain constant, what will the sales turnover need to be in February to hit the target?
(A) £242,099
(B) $£ 277,987$
(C) $£ 38,555$
(D) $£ 274,299$
(E) 288,000

Step 1 - Calculate the required gross profit increase. $36,521 \times 1.5 \%=£ 547.82$.
Given that costs are constant, this means the Net Turnover needs to increase By $£ 547.8$ too. So the Net Turnover needs to be $£ 547.8+£ 238,521=£ 239,068.8$.

Step 2 - We have worked out the Net Turnover, but the question asks for Sales Turnover (i.e. before the sales tax of $14.0 \%$ is deducted). So Sales Turnover $=239,068.8 \div 86.0 \%=$ £277,986.98.

Thus the correct answer is (B) $£ 277,987$

| IKE Computers <br> (Jamuary) | Actual (£) | Target (£) |
| :--- | :--- | :--- |
| Sales Turnover | 277,350 | 325,000 |
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| Gross Profit | 36,521 | 63,500 |

January's Sales Turnover and Profit for IKE Computers in the UK.

Q18 If IKE Computers had January sales turnover in the ratio of $4: 5$ for American:UK operations then what was the January sales turnover for American operations in \$ (at an exchange rate of $1.6 \$$ to the $£$ )?
(A) $\$ 557,400$
(B) $\$ 355,008$
(C) $\$ 216,860$
(D) $\$ 216,680$
(E) $\$ 554,700$

Step 1 - Calculate the January sales turnover for American operations based on the UK value.
UK value is 277,350 and the ratio is American:UK $=4: 5$
So American $=277,350 \times 4 / 5=221,880$.
Step 2 - Convert into \$ $221,880 \times 1.6=\$ 355,008$.

Tip: the calculation is NOT $4 \div(4+5)$ because the table gives the UK value, not the overall total value of UK and America combined.

Thus the correct answer is (B) \$355,008

| IKE Computers <br> (Jamuary) | Actual (£) | Target (£) |
| :--- | :--- | :--- |
| Sales Turnover | 277,350 | 325,000 |
| Sales Tax (14.0\%) | 38,829 | 45,500 |
| Net Turnover | 238,521 | 279,500 |
| Labour Costs | 166,000 | 175,000 |
| Other Costs | 36,000 | 41,000 |
| Gross Profit | 36,521 | 63,500 |

January's Sales Turnover and Profit for IKE Computers in the UK.

Q19 If IKE Computers employed eighty permanent employees in January who were on the same salary, what would have been the effect on labour costs if they had replaced twenty permanent employees with interim staff each on monthly salaries of $£ 3,000$ ?
(A) Cannot tell
(B) Decrease of $£ 130,000$
(C) Decrease of $£ 20,750$
(D) Increase of $£ 2,075$
(E) Increase of $£ 18,500$

Step 1 - Calculate the monthly cost of each full-time employee in January $166,000 / 80=2,075$.

Step 2 - Calculate the difference in monthly labour costs $3,000-2,075=925$.

Step 3 - Calculate the difference of replacing 20 full time employees with interims $925 \times 20=£ 18,500$.

Thus the correct answer is (E) Increase of $£ 18,500$

| IKE Computers <br> (Jamuary) | Actual (£) | Target (£) |
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| Sales Turnover | 277,350 | 325,000 |
| Sales Tax (14.0\%) | 38,829 | 45,500 |
| Net Turnover | 238,521 | 279,500 |
| Labour Costs | 166,000 | 175,000 |
| Other Costs | 36,000 | 41,000 |
| Gross Profit | 36,521 | 63,500 |

January's Sales Turnover and Profit for IKE Computers in the UK.

Q20 If February's gross profit target is a 40\% increase on January's, to be followed by a $25 \%$ decrease in March, what is March's gross profit target (in £1,000s)?
(A) 66,675
(B) 666.8
(C) 66.7
(D) 6.7
(E) 666,750

Step 1 - 40\% increase on 63,500 is calculated as $63,500 \times 1.40=£ 88,900$
Step 2 - Next, a $25 \%$ decrease is $88,900 \times 0.75=66,675=66.7$ ( $£ 1,000$ s)
Tip: there a couple of areas which could trip you up here. Be careful not to muddle target figures with actual figures in the table. And don't miss that the question asks for your answer in £1,000s.

Thus the correct answer is (C) 66.7


Q21 Which sector represents approximately $19 \%$ of the profits from the five sectors shown?
(A) Leisure
(B) Manufacturing
(C) Retail
(D) Government
(E) Utilities

The series of calculations is best shown in a table.

|  | Step 1 - calculate sum | Step 2-Total | Step 3-\% of total |
| :--- | ---: | ---: | ---: |
| Leisure | $5.2+7.4+4.6=17.2$ | 17.2 | $22 \%$ |
| Manufacturing | $5+7.2+6.3=18.5$ | 18.5 | $24 \%$ |
| Retail | $4.4+5.8+3.8=14$ | 14 | $18 \%$ |
| Government | $4.5+5.9+3.6+14$ | 14 | $18 \%$ |
| Utilities | $3.5+5.1+6.2=$ | 14.8 | 14.8 |

Thus the correct answer is (E) Utilities


Q22 If the ratio of profit to turnover for Pacific Rim contracts was $2: 15$, what was the Government turnover in the Pacific Rim (in £100,000s)?
(A) 36
(B) 27
(C) 270
(D) 360
(E) 540

Step 1 - Contracts ratio of profit ( $£ 3.6$ million) to turnover $=2: 15$
Turnover $=£ 3.6$ million $\times 15 / 2=£ 27$ million $=270$ (in $£ 100,000$ s)
Thus the correct answer is (C) 270


Q23 Reyes Heslop had a target for Leisure profits to be a quarter of their total profits. Assuming profits in other areas remain the same, by how much did the Leisure profits miss this target?
(A) $£ 1.8$ million
(B) $£ 2.4$ million
(C) $£ 2.7$ million
(D) $£ 3.2$ million
(E) $£ 3.4$ million

Step 1 - Calculate the total Reyes Heslop profits across all areas other than Leisure. $(6.3+7.2+5.0)+(3.8+5.8+4.4)+(3.6+5.9+4.5)+(6.2+5.1+3.5)=61.3$ million .

Step 2 - This needs to be $3 / 4$ of all profits for the condition to be met. Therefore all profits, across all sectors, would be $61.3 \div 75 \%=81.7333$ million.

Step 3 - Now we look at the difference between actual and target Leisure profits.
Actual $=(4.6+7.4+5.2)=17.2$
Target $=(81.7333-61.3)=20.4333$
Shortfall $=3.2333$ (millions)
Thus the correct answer is (D) $£ 3.2$ million
Note: the INCORRECT way of doing this question would be to:
Sum profits across all areas, calculate $1 / 4$, then see the difference between that figure and 17.2 million. This method would calculate $1 / 4$ of the profits including the reduced figure from Leisure. To see this, use the figure you arrive at using this method for Leisure (19.625) and the total profits become 80.93. Which is not $4 x 19.625$.


Q24 A competitor wants to takeover Reyes Heslop and offers a price of 8 times current profits. Reyes Heslop shareholders reject this offer and suggest a price that is $20 \%$ higher, what is this suggested price?
(A) $£ 79$ million
(B) $£ 63$ million
(C) $£ 628$ million
(D) $£ 754$ million
(E) $£ 502$ million

Step 1 - Calculate the current profits total across all sectors.
$4.6+7.4+5.2+6.3+7.2+5.0+3.8+5.8+4.4+3.6+5.9+4.5+6.2+5.1+3.5=£ 78.5$ million.

Step 2 - Takeover offer price $=(£ 78.5$ million $x 8)=£ 628$ million.
Suggested offer price $=£ 628 \times 120 \%=£ 753.6$ million
Thus the correct answer is (D) $£ 754$ million


Q25 If the Worldwide Sales Director of Reyes Heslop Consulting is aiming for a total sales ratio of 3:2 (American: Pacific Rim), by what absolute amount do American profits need to change if Pacific Rim profits remain constant?
(A) $£ 5.35$ million increase
(B) $£ 15.1$ million increase
(C) $£ 5.35$ million decrease
(D) $£ 15.1$ million decrease
(E) None of these

Step 1 - Calculate the absolute levels of American: Pacific Rim ratio sales; £31.4 million (American): £24.5 million (Pacific Rim)

Step 2 - Calculate change needed in American sales to reach 3:2 ratio ( $£ 24.5$ million $x 3 / 2$ ) - $£ 31.4$ million $=£ 5.35$ million

Thus the correct answer is (A) $£ 5.35$ million increase


Q26 What is the difference between direct sales and telesales across the five teams combined?
(A) $£ 10$ million
(B) $£ 11$ million
(C) $£ 12$ million
(D) $£ 13$ million
(E) $£ 14$ million

Step 1 - Calculate the total direct sales and telesales across the five teams

|  | Direct Sales | Telesales |
| :--- | :--- | :--- |
| Team A | 17 | 16 |
| Team B | 13 | 17 |
| Team C | 16 | 18 |
| Team D | 15 | 17 |
| Team E | 14 | 18 |
| TOTAL | 75 | 86 |

Step 2 - Calculate the difference
86-75=£11 million
Thus the correct answer is $(B) £ 11$ million


Q27 If there are 50 direct sales and 65 telesales employees assigned to each of the Eastern region's teams A-E, what are the average sales per sales employee for the lowest performing team in terms of overall sales (to the nearest $£ 1,000$ )?
(A) Cannot tell from the data
(B) £200,000 (direct); $£ 340,000$ (telesales)
(C) $£ 260,000$ (direct); $£ 260,000$ (telesales)
(D) $£ 340,000$ (telesales); $£ 200,000$ (direct)
(E) £20,000 (direct sales); £30,000 (telesales)

Step 1-Obtain the lowest performing team from calculating the overall sales (direct sales and telesales combined)
Team A total $=33$
Team B total $=30$
Team C total $=34$
Team $D$ total $=32$
Team E total $=32$
So, Team B is the lowest performing team overall.
Step 2 - Calculate the average sales per direct sales employee $13 / 50=0.26$ million

Step 3 - calculate the average sales per telesales sales employee $17 / 65=0.26$ million

Thus the correct answer is (C) $£ 260,000$ (direct sales); $£ 260,000$ (telesales)


Q28 If the Eastern Region's total sales represent 26\% of the total for all regions, what are the total sales across all regions (to the nearest £million)?
(A) $£ 124$ million
(B) $£ 142$ million
(C) $£ 161$ million
(D) $£ 619$ million
(E) $£ 620$ million

Step 1 - Calculate the total sales
86 (for telesales) +75 (for direct sales) $=£ 161$ million
Step 2 - Calculate the total sales across all regions £161 million = 26\% $100 \%=161 \times 100 / 26=£ 619.23$ million

Thus the correct answer is (D) $£ 619$ million


Q29 What are the total sales targets for next year across all five teams if the target is set as a 20\% and 10\% increase in this year's Direct Sales and Telesales respectively?
(A) Direct ( $£ 75$ million); Telesales ( $£ 86$ million)
(B) Direct Sales ( $£ 104$ million); Telesales ( $£ 82$ million)
(C) Direct ( $£ 82$ million); Telesales ( $£ 104$ million)
(D) Direct ( $£ 95$ million); Telesales ( $£ 90$ million)
(E) Direct ( $£ 90$ million); Telesales ( $£ 94.6$ million)

Step 1 - Calculate the increase in the direct sales and telesales totals, as follows:

| Direct Sales | Telesales |
| :--- | :--- |
| 17 | 16 |
| 13 | 17 |
| 16 | 18 |
| 15 | 17 |
| 14 | 18 |
| Total 75 | 86 |
|  | $75 \times 120 \%=90$ |

Thus the correct answer is (E) Direct Sales ( $£ 90$ million); Telesales ( $£ 94.6$ million)


Q30 If there are 5 direct sales employees and 6 telesales employees in each team, which sub-team has the lowest average sales per sales employee?
(A) Direct sales (Team B)
(B) Direct sales (Team D)
(C) Telesales (Team A)
(D) Telesales (Team B)
(E) Telesales (Team D)

Step 1 - Calculate the average sales per direct sales and per telesales rep, as follows:

|  | Direct Sales | Telesales | Average sales <br> (per direct sales <br> employee) | Average sales <br> (per telesales <br> employee) |
| :---: | :---: | :---: | :---: | :---: |
| Team A | 17 | 16 | 3.4 | 2.7 |
| Team B | 13 | 17 | 2.6 | 2.8 |
| Team C | 16 | 18 | 3.2 | 3 |
| Team D | 15 | 17 | 3 | 2.8 |
| Team $E$ | 14 | 18 | 2.8 | 3 |

Thus the correct answer is (A) Direct Sales (Team B)

## -- End of Free Test --

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