

EXXON MOBIL

GRADUATE ENGINEERING

JOB APTITUDE TEST



Complete Preparation Resource

Skill Based Test

Dragnet Style

TESTSTREAMS

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SECTION 1

NUMERICAL REASONING TESTS

The numerical reasoning test is one of the test sections you will have to sit for during an Exxon Mobil Aptitude Test. It involves working with and interpreting numerical data to find answers to the given questions

Answer the following questions (based on past Dragnet numerical tests) following a time limit of 20 minutes per set. You will ready to take the Numerical test in an actual scenario.

Set a timer on your phone and be honest to stop working when the buzzer goes off. You may refer to answer/workings after each set.

Goodluck!

SET 1

Total Product Sales by Demographic

	Units sold				Annual Target (Unit sales)	Product Sales Target (Euros)
	Quarter 1	Quarter 2	Quarter 3	Quarter 4		
Greece	26,000	30,000	31,300	21,000	110,000	250,000
Portugal	28,000	33,200	22,600	20,400	105,000	240,000
Austria	20,000	28,300	22,500	35,000	105,000	240,000
Ireland	19,900	25,000	27,200	30,300	105,000	260,000
Croatia	21,500	29,400	25,800	28,500	110,000	230,000

Q1. What was the unit sales ratio of Austrian Quarter 4 : Portugal Quarter 1: Greek Quarter 4?

- (A) 35:28:22
- (B) 5:3:4
- (C) 6:4:3
- (D) 5:4:3
- (E) 3:4:2

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	(Unit sales)	(Euros)
Greece	26,000	30,000	31,300	21,000	110,000	250,000
Portugal	28,000	33,200	22,600	20,400	105,000	240,000
Austria	20,000	28,300	22,500	35,000	105,000	240,000
Ireland	19,900	25,000	27,200	30,300	105,000	260,000
Croatia	21,500	29,400	25,800	28,500	110,000	230,000

Q2. Which country met or exceeded its annual target for unit sales?

- (A)Greece
- (B)Portugal
- (C)Austria
- (D)Ireland
- (E)Croatia

Total Product Sales by Demographic

	Units sold				Annual Target (Unit sales)	Product Sales Target (Euros)
	Quarter 1	Quarter 2	Quarter 3	Quarter 4		
Greece	26,000	30,000	31,300	21,000	110,000	250,000
Portugal	28,000	33,200	22,600	20,400	105,000	240,000
Austria	20,000	28,300	22,500	35,000	105,000	240,000
Ireland	19,900	25,000	27,200	30,300	105,000	260,000
Croatia	21,500	29,400	25,800	28,500	110,000	230,000

Q3. The previous year's average number of Portuguese units sold per quarter was 20% higher than the year shown. What was the previous year's average number of Portuguese units sold per quarter?

- (A) 104,200
- (B) 31,260
- (C) 26,050
- (D) 21,260
- (E) 20,840

ANSWERS/EXPLANATION

ANSWERS				
1. D	2. C	3. B	4. E	5. D
6. B	7. A	8. A	9. C	10. A
11. C	12. C	13. D	14. C	15. E

Explanations

1. Solution:

Step 1 - Put the 3 countries into a ratio

Austria (Quarter 4) : Portugal (Quarter 1): Greek (Quarter 4)

= 35,000: 28,000: 21,000

Step 2 – Simplify the ratio (recognize that 7 is a common denominator)

5:4:

Thus the correct answer is (D) 5:4:3

2. Solution:

Tip: Notice that all the available answers have just one country, so we know that as soon as we have found one country that exceeded its target, we have the correct answer and we can move on.

Step 1 – Calculate the total unit sales for each country

Greece = 108,300

Portugal = 104,200

Austria = 105,800

Ireland = 102,400

Crotia = 105,200

Step 2 – Compare each total to the Yearly Target (Unit sales)

Targets are either 105,000 or 110,000.

Only Austria has exceeded its 105,000 target.

Thus the correct answer is (C) Austria

3. Solution:

Step 1 – Calculate this year's average number of Portuguese units sold per quarter

$$(28,000 + 33,200 + 22,600 + 20,400) / 4 = 104,200 / 4 = 26,050$$

Step 2 – Calculate a 20% increase to get last year's average number of Portuguese units sold per quarter

$$26,050 \times 1.2 = 31,260$$

Thus the correct answer is (B) 31,260

4. Solution:

Step 1 – Calculate the total value of Austrian unit sales

$$\text{Total Austrian unit sales} = 105,800$$

$$\text{Total value of Austrian unit sales} = 105,800 \times \text{€}3.5 = \text{€}370,300$$

Step 2 - Calculate the corporation tax for the first €200,000 of Austrian unit sales

$$\text{€}200,000 \times 22\% = \text{€}44,000$$

Step 3 - Calculate the tax for sales exceeding €200,000

$$\text{€}370,300 - \text{€}200,000 = \text{€}170,300$$

$$€170,300 \times 20\% = €34,060$$

Step 4 – Calculate the total tax

$$€44,000 + €34,060$$

Thus the correct answer is (E) €78,060

5. Solution:

Step 1 – Calculate the total unit sales for each country

Using the earlier question's total unit sales for each country

$$\text{Greece} = 108,300 \times 2.5 = 270,750$$

$$\text{Portugal} = 104,200 \times 2.25 = 234,450$$

$$\text{Austria} = 105,800 \times 2.25 = 238,050$$

$$\text{Ireland} = 102,400 \times 2.5 = 256,000$$

$$\text{Croatia} = 105,200 \times 2.25 = 236,700$$

Step 2 – Compare each total to the Annual Product Sales Target

Only Croatia and Greece exceeded their respective targets.

Thus the correct answer is (D) Croatia and Greece

6. Solution:

Step 1 - Calculate the % change in value for each liability shown.

$$\text{Interest paying loans} = 134 / 135 = 0.993 = 0.7\% \text{ decrease}$$

$$\text{Currency swaps} = 6.9 / 8.5 = 0.812 = 18.8\% \text{ decrease} - \text{second largest change}$$

$$\text{Other current liabilities} = 48 / 42 = 15\% \text{ increase}$$

$$\text{Interest bearing loans} = 42.6 / 53 = 19.62\% \text{ decrease} - \text{Largest change}$$

$$\text{Pension payments} = 218 / 204 = 6.9\% \text{ increase}$$

$$\text{Tax liabilities} = 49.5 / 48 = 3.125\% \text{ increase.}$$

Thus the correct answer is (B) Currency swaps

7. Solution:

Step 1 – Calculate the Previous year’s difference between the total Non-current liabilities and the total Current liabilities

$$305 - 185.5 = 119.5$$

Step 2 – Calculate the Current year’s difference between the total Non-current liabilities and the total Current liabilities

$$297.4 - 189.3 = 108.1$$

Step 3 – Calculate Next year’s projected difference between the total Non-current liabilities and the total Current liabilities

$$310.1 - 189.2 = 120.9$$

Step 4 – Calculate the average

$$(119.5 + 108.1 + 120.9) / 3 = 116.2$$

Thus the correct answer is (A) £116 million

8. Solution:

Step 1 – Calculate each Current Liability’s % change, as follows

Interest paying loans	$134 / 126 = 106.35\%$
Currency swaps	$6.9 / 11.3 = 61.06\%$
Other current liabilities	$48.3 / 52 = 92.88\%$

Step 2 – Calculate each Current Liability’s subsequent year’s value

Interest paying loans	$134 \times 106.35\% = 142.51$
Currency swaps	$6.9 \times 61.06\% = 4.21$
Other current liabilities	$48.3 \times 92.88\% = 44.86$

Tip: instead of writing down the percentage increase for each category, it saves time if you leave the number in your calculator and work out the “subsequent year” figure straight away. In other words, combine steps 1 and 2.

Step 3 – Total the Current Liability values

$$142.51 + 4.21 + 44.86 = 191.59$$

Thus the correct answer is (A) £192 million

9. Solution:

Step 1 – Calculate the total amount of pension payments across the 3 years shown

$$204 + 196 + 218 = \text{£}618 \text{ million}$$

Step 2 – Calculate the total number of ex-employees drawing a pension across the 3 years shown

$$8,155 + 8,240 + 8,325 = 24,720$$

Step 3 – Calculate the average pension payable across the 3 years

$$\text{£}618 \text{ million} / 24,720 = \text{£}25,000$$

Thus the correct answer is (C) £25,000

10. Solution:

Step 1 – Calculate next year's projected total Non-current liabilities

Interest bearing loans + Pension payments + Tax liabilities =

$$42.6 + 218 + 49.5 = 310.1$$

Step 2 – Correct the total by adding 4% for inflation

$$310.1 \times 1.04 = \text{£}322.5 \text{ million}$$

Thus the correct answer is (A) £322.5 million

11. Solution:

Step 1 – Calculate each product's average sales per European store

$$\text{DE45} = 21,000/26 = 808$$

$$\text{PU20} = 30,000/19 = 1,579$$

$$AE25 = 24,500/11 = 2,227$$

$$PU10 = 18,700/9 = 2,078$$

$$FD24 = 14,700/13 = 1,131$$

Step 2 – Calculate each product's average sales per non-European store

$$DE45 = 35,000/14 = 2,500$$

$$PU20 = 20,000/9 = 2,222$$

$$AE25 = 13,000/6 = 2,167$$

$$PU10 = 24,000/5 = 4,800$$

$$FD24 = 9,000/7 = 1,286$$

Thus the correct answer is (C) FD24 (non-European); AE25 (European)

12. Solution:

Step 1 – Calculate the number of German births per year

$$39.8 + 40.2 = 80 \text{ million}$$

$$5.4 \times 80 \text{ million} / 500 = 864,000$$

Step 2 – Calculate the number of Spanish births per year

$$24.2 + 23.8 = 48 \text{ million}$$

$$6.4 \times 48 \text{ million} / 500 = 614,400$$

Step 3 – Calculate the difference

$$864,000 - 614,400 = 249,600$$

Thus the correct answer is (C) 249,600 more German babies

13. Solution:

Step 1 - Calculate the populations for each country by adding the male and female population. Then calculate the non-working population for each country, including the UK, as shown below;

	Total Population (millions)	Non Working Population (% of total population)	
Netherlands	$8.9 + 9.1 = 18$	$100 - 55 = 45\%$	$45\% \times 18 = 8.1$
Germany	$39.8 + 40.2 = 80$	$100 - 50 = 50\%$	$50\% \times 80 = 40$
France	$31.1 + 31.4 = 62.5$	$100 - 48 = 52\%$	$52\% \times 62.5 = 32.5$
Spain	$24.2 + 23.8 = 48$	$100 - 45 = 55\%$	$55\% \times 48 = 26.4$
UK	$27.9 + 28.1 = 56$	$100 - 52 = 48\%$	$48\% \times 56 = 26.88$

Thus the correct answer is (D) Spain

14. Solution:

Step 1 – Calculate the total population

$$31.1 + 31.4 = 62.5 \text{ million}$$

Step 2 – Calculate the working population

$$62.5 \times 48\% = 30 \text{ million}$$

Step 3 – Apply the unemployment rate

$$30 \text{ million} \times 12\% = 3.6 \text{ million}$$

Step 4 – Apply the urban to rural areas ratio

$$3.6 \text{ million} = 7:8$$

$$\text{Urban areas unemployed} = 3,600,000 \times 7/15 = 1,680,000$$

Thus the correct answer is (C) 1,680,000

15. Solution:

Step 1 – Apply the ratio

$$30,000: \text{Belgian average earnings} = 2:5$$

Belgian average earnings = $(5 \times 30,000)/2 = \text{€}75,000$.

Step 2 – Convert into £

$75,000 \div 1.15 = 65,217.4 = \text{£}65,200$ (to the nearest £100)

Thus the correct answer is (E) £65,200

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	(Unit sales)	(Euros)
Greece	26,000	30,000	31,300	21,000	110,000	250,000
Portugal	28,000	33,200	22,600	20,400	105,000	240,000
Austria	20,000	28,300	22,500	35,000	105,000	240,000
Ireland	19,900	25,000	27,200	30,300	105,000	260,000
Croatia	21,500	29,400	25,800	28,500	110,000	230,000

Q4. If Austria's annual corporation tax was 22% on the first €200,000 of sales and 20% on sales exceeding €200,000, how much is their corporation tax bill for the year (assuming each unit is sold at €3.5)?

- (A) €34,000
- (B) €34,060
- (C) €37,060
- (D) €44,000
- (E) €78,060

Total Product Sales by Demographic

	Units sold				Annual Target	Product Sales Target
	Quarter 1	Quarter 2	Quarter 3	Quarter 4	(Unit sales)	(Euros)
Greece	26,000	30,000	31,300	21,000	110,000	250,000
Portugal	28,000	33,200	22,600	20,400	105,000	240,000
Austria	20,000	28,300	22,500	35,000	105,000	240,000
Ireland	19,900	25,000	27,200	30,300	105,000	260,000
Croatia	21,500	29,400	25,800	28,500	110,000	230,000

Q5. Greek and Irish sales generated 2.5 Euros per unit sold, whilst the other countries' sales generated 2.25 Euros per unit sold. Which country or countries exceeded their Annual Product Sales Target?

- (A) Portugal and Austria
- (B) Ireland and Austria
- (C) Croatia and Austria
- (D) Croatia and Greece
- (E) Ireland and Greece

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q6. Next year, which liability is projected to have experienced the second highest percentage change in value compared with last year?

- (A) Interest paying loans
- (B) Currency swaps
- (C) Other current liabilities
- (D) Pension payments
- (E) Cannot tell

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q7. What is the average difference between the total Non-Current Liabilities and the total Current Liabilities for the 3 years shown (to the nearest £million)?

- (A) £116 million
- (B) £117 million
- (C) £118 million
- (D) £119 million
- (E) £120 million

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q8. If the projected figures shown prove accurate and the same percentage changes occur for each liability in the year after next, what will the total Current Liabilities be in the year after next (to the nearest £million)?

- (A) £192 million
- (B) £189 million
- (C) £187 million
- (D) £185 million
- (E) £183 million

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q9. The Pension payments figure for each year is based upon the following numbers of ex-employees drawing a pension: 8,155 (previous year); 8,240 (current year); 8,325 (next year). What is the average pension payable across the 3 years shown (to the nearest £1,000)?

- (A) £15,000
- (B) £20,000
- (C) £25,000
- (D) £30,000
- (E) £35,000

Total Liabilities	Previous Year (£million)	Current Year (£million)	Next Year's Projection (£million)
Current Liabilities			
Interest paying loans	135	126	134
Currency swaps	8.5	11.3	6.9
Other current liabilities	42	52	48.3
Non-Current Liabilities			
Interest bearing loans	53	45	42.6
Pension payments	204	196	218
Tax liabilities	48	56.4	49.5

Q10. Next year's projected figures need to be corrected by adding an additional 4% for inflation. What is next year's corrected total Non-Current Liabilities?

- (A) £322.5 million
- (B) £310.1 million
- (C) £309.3 million
- (D) £297.7 million
- (E) £297.4 million

Product code	Non-European stores selling product	Current month's sales (\$)	Price per product unit (\$)
DE45*	14	35,000	175
PU20*	9	20,000	200
AE25	6	13,000	130
PU10**	5	24,000	150
FD24**	7	9,000	180

* Promotional offer = 3 for the price of 2

** Promotional offer = 4 for the price of 3

Product code	European stores selling product	Current month's sales (€)	Price per product unit (€)
DE45	26	21,000	150
PU20	19	30,000	160
AE25	11	24,500	200
PU10	9	18,700	110
FD24	13	14,700	90

Q11. Which of the products shown had the lowest value of sales per non-European store and which had the highest value of sales per European store?

- (A) PU10 (non-European); AE25 (European)
- (B) FD24 (non-European); DE45 (European)
- (C) FD24 (non-European); AE25 (European)
- (D) AE25 (non-European); PU10 (European)
- (E) AE25 (non-European); FD24 (European)

	Average Earnings (Euros per head of the working population)	Male Population (millions)	Female Population (millions)	Working Population (% of total population)
Netherlands	34,000	8.9	9.1	55
Germany	29,000	39.8	40.2	50
France	30,000	31.1	31.4	48
Spain	25,000	24.2	23.8	45
UK	33,000	27.9	28.1	52

Q12. If the annual birth rates for Germany and Spain are 5.4 births (per 500 population) and 6.4 births (per 500 population) respectively, what is the difference between the number of Spanish and German babies born each year?

- (A) 24,960 more Spanish babies
- (B) 100,000 more German babies
- (C) 249,600 more German babies
- (D) 1,233,000 more Spanish babies
- (E) 123,300 less Spanish babies

	Average Earnings (Euros per head of the working population)	Male Population (millions)	Female Population (millions)	Working Population (% of total population)
Netherlands	34,000	8.9	9.1	55
Germany	29,000	39.8	40.2	50
France	30,000	31.1	31.4	48
Spain	25,000	24.2	23.8	45
UK	33,000	27.9	28.1	52

Q13. Which of the following countries has a non-working population that is closest in number to the UK's non-working population?

- (A) Netherlands
- (B) Germany
- (C) France
- (D) Spain
- (E) Cannot Say

	Average Earnings (Euros per head of the working population)	Male Population (millions)	Female Population (millions)	Working Population (% of total population)
Netherlands	34,000	8.9	9.1	55
Germany	29,000	39.8	40.2	50
France	30,000	31.1	31.4	48
Spain	25,000	24.2	23.8	45
UK	33,000	27.9	28.1	52

Q14. If the ratio of French unemployed in urban to rural areas is 7:8 and the French unemployment rate is 12% of the working population, how many French unemployed are there in urban areas?

- (A) 1,050,000
- (B) 1,332,000
- (C) 1,680,000
- (D) 2,500,000
- (E) 373,200

	Average Earnings (Euros per head of the working population)	Male Population (millions)	Female Population (millions)	Working Population (% of total population)
Netherlands	34,000	8.9	9.1	55
Germany	29,000	39.8	40.2	50
France	30,000	31.1	31.4	48
Spain	25,000	24.2	23.8	45
UK	33,000	27.9	28.1	52

Q15. If the ratio of France: Belgium average earnings per head of working population is 2:5, then what is Belgium's average earnings in £, at an exchange rate of 1.15 Euros to the £ (to the nearest £100)?

- (A) £124,000
- (B) £86,000
- (C) £86,300
- (D) £124,800
- (E) £65,200

ANSWERS/EXPLANATION

ANSWERS				
1. D	2. C	3. B	4. E	5. D
6. B	7. A	8. A	9. C	10. A
11. C	12. C	13. D	14. C	15. E

Explanations

1. Solution:

Step 1 - Put the 3 countries into a ratio

Austria (Quarter 4) : Portugal (Quarter 1): Greek (Quarter 4)

= 35,000: 28,000: 21,000

Step 2 – Simplify the ratio (recognize that 7 is a common denominator)

5:4:

Thus the correct answer is (D) 5:4:3

2. Solution:

Tip: Notice that all the available answers have just one country, so we know that as soon as we have found one country that exceeded its target, we have the correct answer and we can move on.

Step 1 – Calculate the total unit sales for each country

Greece = 108,300

Portugal = 104,200

Austria = 105,800

Ireland = 102,400

Crotia = 105,200

Step 2 – Compare each total to the Yearly Target (Unit sales)

Targets are either 105,000 or 110,000.

Only Austria has exceeded its 105,000 target.

Thus the correct answer is (C) Austria

3. Solution:

Step 1 – Calculate this year's average number of Portuguese units sold per quarter

$$(28,000 + 33,200 + 22,600 + 20,400) / 4 = 104,200 / 4 = 26,050$$

Step 2 – Calculate a 20% increase to get last year's average number of Portuguese units sold per quarter

$$26,050 \times 1.2 = 31,260$$

Thus the correct answer is (B) 31,260

4. Solution:

Step 1 – Calculate the total value of Austrian unit sales

$$\text{Total Austrian unit sales} = 105,800$$

$$\text{Total value of Austrian unit sales} = 105,800 \times \text{€}3.5 = \text{€}370,300$$

Step 2 - Calculate the corporation tax for the first €200,000 of Austrian unit sales

$$\text{€}200,000 \times 22\% = \text{€}44,000$$

Step 3 - Calculate the tax for sales exceeding €200,000

$$\text{€}370,300 - \text{€}200,000 = \text{€}170,300$$

$$€170,300 \times 20\% = €34,060$$

Step 4 – Calculate the total tax

$$€44,000 + €34,060$$

Thus the correct answer is (E) €78,060

5. Solution:

Step 1 – Calculate the total unit sales for each country

Using the earlier question's total unit sales for each country

$$\text{Greece} = 108,300 \times 2.5 = 270,750$$

$$\text{Portugal} = 104,200 \times 2.25 = 234,450$$

$$\text{Austria} = 105,800 \times 2.25 = 238,050$$

$$\text{Ireland} = 102,400 \times 2.5 = 256,000$$

$$\text{Croatia} = 105,200 \times 2.25 = 236,700$$

Step 2 – Compare each total to the Annual Product Sales Target

Only Croatia and Greece exceeded their respective targets.

Thus the correct answer is (D) Croatia and Greece

6. Solution:

Step 1 - Calculate the % change in value for each liability shown.

$$\text{Interest paying loans} = 134 / 135 = 0.993 = 0.7\% \text{ decrease}$$

$$\text{Currency swaps} = 6.9 / 8.5 = 0.812 = 18.8\% \text{ decrease} - \text{second largest change}$$

$$\text{Other current liabilities} = 48 / 42 = 15\% \text{ increase}$$

$$\text{Interest bearing loans} = 42.6 / 53 = 19.62\% \text{ decrease} - \text{Largest change}$$

$$\text{Pension payments} = 218 / 204 = 6.9\% \text{ increase}$$

$$\text{Tax liabilities} = 49.5 / 48 = 3.125\% \text{ increase.}$$

Thus the correct answer is (B) Currency swaps

7. Solution:

Step 1 – Calculate the Previous year’s difference between the total Non-current liabilities and the total Current liabilities

$$305 - 185.5 = 119.5$$

Step 2 – Calculate the Current year’s difference between the total Non-current liabilities and the total Current liabilities

$$297.4 - 189.3 = 108.1$$

Step 3 – Calculate Next year’s projected difference between the total Non-current liabilities and the total Current liabilities

$$310.1 - 189.2 = 120.9$$

Step 4 – Calculate the average

$$(119.5 + 108.1 + 120.9) / 3 = 116.2$$

Thus the correct answer is (A) £116 million

8. Solution:

Step 1 – Calculate each Current Liability’s % change, as follows

Interest paying loans	$134 / 126 = 106.35\%$
Currency swaps	$6.9 / 11.3 = 61.06\%$
Other current liabilities	$48.3 / 52 = 92.88\%$

Step 2 – Calculate each Current Liability’s subsequent year’s value

Interest paying loans	$134 \times 106.35\% = 142.51$
Currency swaps	$6.9 \times 61.06\% = 4.21$
Other current liabilities	$48.3 \times 92.88\% = 44.86$

Tip: instead of writing down the percentage increase for each category, it saves time if you leave the number in your calculator and work out the “subsequent year” figure straight away. In other words, combine steps 1 and 2.

Step 3 – Total the Current Liability values

$$142.51 + 4.21 + 44.86 = 191.59$$

Thus the correct answer is (A) £192 million

9. Solution:

Step 1 – Calculate the total amount of pension payments across the 3 years shown

$$204 + 196 + 218 = \text{£}618 \text{ million}$$

Step 2 – Calculate the total number of ex-employees drawing a pension across the 3 years shown

$$8,155 + 8,240 + 8,325 = 24,720$$

Step 3 – Calculate the average pension payable across the 3 years

$$\text{£}618 \text{ million} / 24,720 = \text{£}25,000$$

Thus the correct answer is (C) £25,000

10. Solution:

Step 1 – Calculate next year's projected total Non-current liabilities

Interest bearing loans + Pension payments + Tax liabilities =

$$42.6 + 218 + 49.5 = 310.1$$

Step 2 – Correct the total by adding 4% for inflation

$$310.1 \times 1.04 = \text{£}322.5 \text{ million}$$

Thus the correct answer is (A) £322.5 million

11. Solution:

Step 1 – Calculate each product's average sales per European store

$$\text{DE45} = 21,000/26 = 808$$

$$\text{PU20} = 30,000/19 = 1,579$$

$$AE25 = 24,500/11 = 2,227$$

$$PU10 = 18,700/9 = 2,078$$

$$FD24 = 14,700/13 = 1,131$$

Step 2 – Calculate each product's average sales per non-European store

$$DE45 = 35,000/14 = 2,500$$

$$PU20 = 20,000/9 = 2,222$$

$$AE25 = 13,000/6 = 2,167$$

$$PU10 = 24,000/5 = 4,800$$

$$FD24 = 9,000/7 = 1,286$$

Thus the correct answer is (C) FD24 (non-European); AE25 (European)

12. Solution:

Step 1 – Calculate the number of German births per year

$$39.8 + 40.2 = 80 \text{ million}$$

$$5.4 \times 80 \text{ million} / 500 = 864,000$$

Step 2 – Calculate the number of Spanish births per year

$$24.2 + 23.8 = 48 \text{ million}$$

$$6.4 \times 48 \text{ million} / 500 = 614,400$$

Step 3 – Calculate the difference

$$864,000 - 614,400 = 249,600$$

Thus the correct answer is (C) 249,600 more German babies

13. Solution:

Step 1 - Calculate the populations for each country by adding the male and female population. Then calculate the non-working population for each country, including the UK, as shown below;

	Total Population (millions)	Non Working Population (% of total population)	
Netherlands	$8.9 + 9.1 = 18$	$100 - 55 = 45\%$	$45\% \times 18 = 8.1$
Germany	$39.8 + 40.2 = 80$	$100 - 50 = 50\%$	$50\% \times 80 = 40$
France	$31.1 + 31.4 = 62.5$	$100 - 48 = 52\%$	$52\% \times 62.5 = 32.5$
Spain	$24.2 + 23.8 = 48$	$100 - 45 = 55\%$	$55\% \times 48 = 26.4$
UK	$27.9 + 28.1 = 56$	$100 - 52 = 48\%$	$48\% \times 56 = 26.88$

Thus the correct answer is (D) Spain

14. Solution:

Step 1 – Calculate the total population

$$31.1 + 31.4 = 62.5 \text{ million}$$

Step 2 – Calculate the working population

$$62.5 \times 48\% = 30 \text{ million}$$

Step 3 – Apply the unemployment rate

$$30 \text{ million} \times 12\% = 3.6 \text{ million}$$

Step 4 – Apply the urban to rural areas ratio

$$3.6 \text{ million} = 7:8$$

$$\text{Urban areas unemployed} = 3,600,000 \times 7/15 = 1,680,000$$

Thus the correct answer is (C) 1,680,000

15. Solution:

Step 1 – Apply the ratio

$$30,000: \text{Belgian average earnings} = 2:5$$

Belgian average earnings = $(5 \times 30,000)/2 = \text{€}75,000$.

Step 2 – Convert into £

$75,000 \div 1.15 = 65,217.4 = \text{£}65,200$ (to the nearest £100)

Thus the correct answer is (E) £65,200

SECTION 1

NUMERICAL REASONING TESTS

The numerical reasoning test is one of the test sections you will have to sit for during an Exxon Mobil Aptitude Test. It involves working with and interpreting numerical data to find answers to the given questions

Answer the following questions (based on past Dragnet numerical tests) following a time limit of 20 minutes per set. You will ready to take the Numerical test in an actual scenario.

Set a timer on your phone and be honest to stop working when the buzzer goes off. You may refer to answer/workings after each set.

Goodluck!

SET 1

Over ten percent of the adult population suffers from a phobia-type of anxiety disorder characterised by an intense, irrational fear of an object or situation that interferes with the sufferers' daily life. Although experts do not fully understand the cause of phobias, research indicates that heredity and triggering events are likely factors. There are a variety of treatments available for phobia sufferers. Cognitive behaviour therapy (CBT) is a very popular, and effective method of desensitization. This approach treats the phobia's anxiety symptoms as conditioned behaviours that can, through systematic exposure to the feared stimulus, be re-learned. CBT increases exposure to the feared object or situation very gradually, thereby modifying the patient's response and developing tolerance. A less common treatment is flooding, which uses total immersion to the feared object in order to desensitize the patient. Medication is also used to treat phobias. Monoamine oxidase inhibitors (MAOIs) are antidepressants that can be prescribed to reduce panic and improve confidence, though they can have negative side effects including weight gain. While phobias are among the most easily treated mental health problems, less than 25% of sufferers seek treatment. If untreated, phobias can exacerbate and develop into other problems, such as depression and low self-esteem

Q1

Which two of these statements must be true?

- (A) Despite the high success rates of phobia treatments, most sufferers remain untreated
- (B) The majority of phobia sufferers run the risk of developing associated problems
- (C) Weight gain is the main side effect caused by taking MAO inhibitors

(D) Flooding is a less effective form of therapy than CBT.

Answer and Explanation

Q1. Which two of these statements must be true?

(True) Despite the high success rates of phobia treatments, most sufferers remain untreated

While phobias are among the most easily treated mental health problems, less than 25% of sufferers seek treatment (from the last 3 lines in the passage)

(True) The majority of phobia sufferers run the risk of developing associated problems

Since majority of phobia sufferers do not go for treatment, it therefore follows that majority of them run the risk of developing associated problems (from the last 2 lines in the passage)

(Cannot Say) Weight gain is the main side effect caused by taking MAO inhibitors

The passage stated that weight gain is one of the side effects of taking MAO inhibitors, it never stated specifically that this is the main side effect

(Cannot say) Flooding is a less effective form of therapy than CBT.

The effectiveness of both were never compared, it was their level of popularity that was compared

Over ten percent of the adult population suffers from a phobia-type of anxiety disorder characterised by an intense, irrational fear of an object or situation that interferes with the sufferers' daily life. Although experts do not fully understand the cause of phobias, research indicates that heredity and triggering events are likely factors. There are a variety of treatments available for phobia sufferers. Cognitive behaviour therapy (CBT) is a very popular, and effective method of desensitization. This approach treats the phobia's anxiety symptoms as conditioned behaviours that can, through systematic exposure to the feared stimulus, be re-learned. CBT increases exposure to the feared object or situation very gradually, thereby modifying the patient's response and developing tolerance. A less common treatment is flooding, which uses total immersion to the feared object in order to desensitize the patient. Medication is also used to treat phobias. Monoamine oxidase inhibitors (MAOIs) are antidepressants that can be prescribed to reduce panic and improve confidence, though they can have negative side effects including weight gain. While phobias are among the most easily treated mental health problems, less than 25% of sufferers seek treatment. If untreated, phobias can exacerbate and develop into other problems, such as depression and low self-esteem

Q2

Which two of these statements must be true?

- (A) Phobias do not affect 90% of the adult population
- (B) Flooding involves a high degree of exposure to the source of dread
- (C) In CBT, patients are exposed to the feared object or situation in small increments
- (D) CBT is more effective at treating phobias than antidepressants

Answer and Explanation

Q2 Which two of these statements must be true?

(Cannot say) Phobias do not affect 90% of the adult population

No such value was given in the entire passage

(False) Flooding involves a high degree of exposure to the source of dread

Flooding involves total exposure not an high degree of exposure (clearly stated in the passage)

(True) In CBT, patients are exposed to the feared object or situation in small increments

Very true as seen in the passage

(True) CBT is more effective at treating phobias than antidepressants

From the information given in the passage; CBT help modify the patient's response and develop tolerance while antidepressants only seem to have psychological effect and negative side effects. So one can conclude so

Over ten percent of the adult population suffers from a phobia-type of anxiety disorder characterised by an intense, irrational fear of an object or situation that interferes with the sufferers' daily life. Although experts do not fully understand the cause of phobias, research indicates that heredity and triggering events are likely factors. There are a variety of treatments available for phobia sufferers. Cognitive behaviour therapy (CBT) is a very popular, and effective method of desensitization. This approach treats the phobia's anxiety symptoms as conditioned behaviours that can, through systematic exposure to the feared stimulus, be re-learned. CBT increases exposure to the feared object or situation very gradually, thereby modifying the patient's response and developing tolerance. A less common treatment is flooding, which uses total immersion to the feared object in order to desensitize the patient. Medication is also used to treat phobias. Monoamine oxidase inhibitors (MAOIs) are antidepressants that can be prescribed to reduce panic and improve confidence, though they can have negative side effects including weight gain. While phobias are among the most easily treated mental health problems, less than 25% of sufferers seek treatment. If untreated, phobias can exacerbate and develop into other problems, such as depression and low self-esteem

Q3

Which two of these statements must be true?

- (A) CBT views a phobia's symptoms as the result of condition
- (B) CBT is the most commonly used form of treatment for phobias
- (C) A phobia is an extreme and unrealistic fear
- (D) Research has proven that phobias are inherited

Answer and Explanation

Q3 Which two of these statements must be true?

(True) CBT views a phobia's symptoms as the result of condition

Very true as seen in line 6 of the passage

(Cannot say) CBT is the most commonly used form of treatment for phobias

The passage says "very popular" and not "most popular" as seen in line 5

(True) A phobia is an extreme and unrealistic fear

Very true as seen in line 1 and 2

(False) Research has proven that phobias are inherited

From the passage, heredity was stated as a likely cause and not a proven cause as seen in line 3

Over ten percent of the adult population suffers from a phobia-type of anxiety disorder characterised by an intense, irrational fear of an object or situation that interferes with the sufferers' daily life. Although experts do not fully understand the cause of phobias, research indicates that heredity and triggering events are likely factors. There are a variety of treatments available for phobia sufferers. Cognitive behaviour therapy (CBT) is a very popular, and effective method of desensitization. This approach treats the phobia's anxiety symptoms as conditioned behaviours that can, through systematic exposure to the feared stimulus, be re-learned. CBT increases exposure to the feared object or situation very gradually, thereby modifying the patient's response and developing tolerance. A less common treatment is flooding, which uses total immersion to the feared object in order to desensitize the patient. Medication is also used to treat phobias. Monoamine oxidase inhibitors (MAOIs) are antidepressants that can be prescribed to reduce panic and improve confidence, though they can have negative side effects including weight gain. While phobias are among the most easily treated mental health problems, less than 25% of sufferers seek treatment. If untreated, phobias can exacerbate and develop into other problems, such as depression and low self-esteem

Q4

Which two of these statements must be true?

- (A) Both CBT and flooding involve desensitizing the phobia sufferer
- (B) Phobias are among the most common form of mental health problem
- (C) In flooding, a person is gradually exposed to their source of fear
- (D) A phobia can have a negative impact on sufferer's daily life

Answer and Explanation

Q4 Which two of these statements must be true?

(True) Both CBT and flooding involve desensitizing the phobia sufferer

Very true, as seen in line 5 and 10

(Cannot say) Phobias are among the most common form of mental health problem

This statement was never discussed in the passage, rather what discussed was how common it was to treat such mental condition; as seen in the last 3 lines

(False) In flooding, a person is gradually exposed to their source of fear

Flooding involves total immersion as seen line 10 of the passage

(True) Phobias can have a negative impact on sufferer's daily life

Line 2 confirms this: Phobia interferes with the sufferers' daily life