

Workforce Ability Test 1.0

Questions and Answers

Instructions

This Ability test comprises **50 questions**, and you will have **50 minutes** in which to correctly answer as many as you can. Calculators are not permitted for this test, and it is recommended you have some rough paper to work on.

The test comprises of three sections:

1. Verbal Section (20 Questions)
2. Abstract Section (10 Questions)
3. Numerical Section (20 Questions)

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.

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.
When you are ready, begin the test.

In an effort to preserve fishing stocks, the European Union uses a quota system to regulate the amount of fish that can be taken out of the North Sea. This involves defining the tonnage of the various types of North Sea fish that each EU member country can take. As soon as the catch is landed - but not before – fishermen can be fined for landing more fish at their port than their quota permits. Each year fishermen dump thousands of tonnes of fish back into the sea either because they have reached their quota and don't want to be fined or because the fish are too small to be caught legally. Some environmental groups feel that existing approaches are not working since these fish are already dead and throwing them back serves no real purpose. They believe that other steps need to be taken to conserve North Sea fishing stocks and avoid depletion.

Q1 Fish stocks in the North Sea are nearly exhausted.

True

False

Cannot say

Cannot say - The passage tells us only that the EU are seeking to preserve existing stocks and environmentalists wish to avoid depletion. The passage does not tell us if fish stocks are near to depletion or indeed if they are plentiful, so we must answer Cannot Say.

Q2 Some environmental groups think new fish conservation methods are required.

True

False

Cannot say

True - The passage states that environmental groups believe “existing approaches are not working” and “other steps need to be taken”. So if measures other than existing are called for, this must mean new methods are called for.

Q3 Fishermen can be fined for catching too many fish.

True

False

Cannot say

False - The passage states that fishermen can be fined “as soon as the catch is landed -but not before-” so they cannot be fined for catching too many fish.

Nobody knows what life forms may exist outside our own planet. The search for extra-terrestrial life in the universe took a step nearer to fruition with the discovery in June of what are believed to be traces of water on the surface of Mars. Life on our planet requires water and its presence on Mars may point towards the existence of past life on the planet. The Phoenix Mars Lander robot landed on the plains of Mars on May 25 2008, searching for signs that the Martian environment might once have been habitable to life. When it dug a ditch in the planet's surface, photos revealed small patches of bright material. Four days later those patches had disappeared, causing scientists to speculate that they were water ice that had previously been buried and which vaporised when exposed to the air. Scientists insisted that if the patches had been salt, they wouldn't have disappeared and if they had been solid carbon dioxide, then they wouldn't have vaporised.

Q4 The Phoenix Mars Lander has provided proof that life once existed on Mars.

True

False

Cannot say

Cannot say - The passage states that scientists speculate that there were ice patches on Mars, which is needed for life. We are told about the Phoenix Mars Lander and its discovery but we are not told what the Phoenix Mars Lander has proved, disproved, or failed to prove. For illustration: this passage could be reporting on just one aspect of what Phoenix has discovered. So we cannot say if this is true or false without further information.

Tip: this statement would have been False if the passage had said something to the effect that this is everything the Phoenix Mars Lander has ever done or found.

Q5 Life forms on Mars require water in order to survive.

True

False

Cannot say

Cannot say - The passage states that “Life on our planet requires water”. The passage also says that we do not know about every single life form: “Nobody knows what life forms may exist outside our own planet”. Given that the passage does not tell us whether all life on Mars (or any planet other than our own) does or does not require water, we cannot say whether or not this statement is true or false, therefore we have to answer Cannot Say.

Q6 Since the Phoenix Mars Lander cannot excavate it is limited to surface photography.

True

False

Cannot say

False - The fifth sentence says “When it dug a ditch in the planet’s surface” meaning that the Phoenix Mars Lander is capable of some sort of excavation

The 2008 A level results show that 97.2% of students passed compared with 96.6% in 2007. And 25.9% gained A grades, a rise of 0.6% from the 2007 results. The number of students sitting A levels in 2008 was also up, at a record high of 827,737. This high success-rate is causing concerns in some quarters that the exams are getting easier. However the government attributes the annual change to the increased spending on schools over the period. Meanwhile the general secretary of the Association of Teachers and Lecturers, Dr Mary Bousted, has berated teaching methods in schools as spoon-feeding students to pass exams without developing the desire to continue learning or gaining the skills necessary to learn independently. Adding to the debate, the general secretary of the University and College Union, Sally Hunt, suggested it is unfair to downplay the students' results and the hard work of their teachers.

Q7 A level results are improving year-on-year.

True

False

Cannot say

Cannot say - The passage tells us there was an increased percentage of students passing in 2008 compared with 2007, but we are not told about results from any other years. So we cannot say for sure if results are improving every year.

Q8 A level exams are getting easier.

True

False

Cannot say

Cannot say - Some people have expressed concerns that the exams are getting easier, but no evidence of this notion is given in the passage.

Q9 More money was spent on schools in 2008 than in 2007.

True

False

Cannot say

True - The passage refers to the “the increased spending on schools over the period” and from earlier in the passage we see that “the period” referred to is 2007 to 2008.

On 1st July 2007 the smoke-free law was introduced in England with the aim of protecting employees in their places of work, and the general public in enclosed public places, from the effects of secondhand smoking. These law changes mean that all public transport and work vehicles used by more than one person must be smoke-free, no-smoking signs must be displayed in all smoke-free premises and vehicles, and staff smoking rooms are no longer allowed; staff who want to smoke must go outside. Local councils in England have the responsibility of enforcing the law but it is the legal responsibility of the managers of smoke-free premises and vehicles to make sure people don't smoke. Individuals can be fined or prosecuted for breaking the law and employers can be fined if they do not display the no-smoking signs or if they allow smoking to continue on their premises.

Q10 Second hand smoking can cause lung cancer and other respiratory diseases.

True

False

Cannot say

Cannot say - There is nothing in the passage telling us that this is definitely either true or false, so we must answer Cannot Say (regardless of what knowledge you may have from sources other than this passage of text).

Q11 The smoke-free law had the public's welfare in mind.

True

False

Cannot say

True - The first sentence tells us that the smoke-free law "was introduced in England with the aim of protecting employees in their places of work, and the general public". So we are told that this was one of the aims, which means they must have had public welfare in mind.

Q12 It is no longer legal for smoking rooms to be provided for employees inside buildings.

True

False

Cannot say

True - The passage states that “staff smoking rooms are no longer allowed; staff who want to smoke must go outside”. Employees are the same as “staff” so we are told that this statement is true.

The merits of single-sex education have long been debated in the United States, where demand for single-sex schools is on the rise. Title IV, a 1972 law prohibiting sex discrimination in education, was amended in 2006, allowing for the establishment of single-sex state schools so long as a co-educational alternative is available. While critics view single-sex schools as discriminatory and inadequate preparation for adult life, advocates claim that children, and particularly girls, benefit from a single-sex education. Some American research shows that girls attending single-sex schools have higher self-esteem, participate more in class, and score higher on aptitude tests than their counterparts in co-educational schools. A 2005 study claimed that both girls and boys attending single-sex schools spent more time on homework and had less disciplinary problems. Single-sex schools subvert stereotypical course-taking patterns and results. Advocates of single-sex schooling argue that educators can teach more effectively by tailoring their tuition to reflect current research about gender-based brain development. Many experts, however, believe that research into single-sex education is inconclusive, and that so long as the education provided is gender-fair, both girls and boys can thrive in a co-educational environment.

Q13 Girls who attend single-sex schools perform better in maths and sciences than their counterparts in co-educational schools.

True

False

Cannot say

Cannot say – while the sixth sentence states that “single-sex schools subvert stereotypical course-taking patterns and results,” it is not possible to say – based only on the information in the passage – whether girls perform better in maths and sciences. The passage explains how there are advocates on each side of the argument, but does not say who is right.

Q14 The trend towards American single-sex state education is a relatively recent phenomenon.

True

False

Cannot say

True – single-sex state schools were illegal between 1972 and 2006, as explained in the second sentence.

Q15 Proponents of single-sex education believe there are neurological differences between the two genders.

True

False

Cannot say

True – the seventh sentence states that educators can tailor their tuition to reflect current research about gender-based brain development.

The next 5 Questions deal with Critical Reasoning:

Q16 In Los Angeles, a political candidate who buys saturation radio advertising will get maximum name recognition.

The statement above logically conveys which of the following?

- A. Radio advertising is the most important factor in political campaigns in Los Angeles.
- B. Maximum name recognition in Los Angeles will help a candidate to win a higher percentage of votes cast in the city.
- C. Saturation radio advertising reaches every demographically distinct sector of the voting population of Los Angeles.
- D. For maximum name recognition a candidate need not spend on media channels other than radio advertising.
- E. A candidate's record of achievement in the Los Angeles area will do little to affect his or her name recognition there.

An L.A. political candidate who buys saturation radio advertising will get maximum name recognition. In other words, such advertising is sufficient for maximum name recognition. If so, then it must be true that, as (D) says, a candidate can get such recognition without spending on other forms of media.

Q17 The rate of violent crime in this state is up 30 percent from last year. The fault lies entirely in our court system: Recently our judges' sentences have been so lenient that criminals can now do almost anything without fear of a long prison term.

The argument above would be weakened if it were true that

-
- A. 85 percent of the other states in the nation have lower crime rates than does this state.
 - B. White collar crime in this state has also increased by over 25 percent in the last year.
 - C. 35 percent of the police in this state have been laid off in the last year due to budget cuts.
 - D. Polls show that 65 percent of the population in this state opposes capital punishment.
 - E. The state has hired 25 new judges in the last year to compensate for deaths and retirements.

C is the right option

If we can show that something besides the court system may explain the increase in crime we would weaken the argument. The author assumes that there is no other cause. Tackle the choices, looking for another cause besides the allegedly lenient court sentences.

(A) Does not compare one state to another. The argument's scope is the crime rate increase in this particular state only. In (B), the fact that white collar crime is also on the rise strengthens rather than weakens the argument. (C) presents an alternative explanation for the increase in crime (reduction in police). As for (D), what if 65 percent of people in the state oppose capital punishment? This provides little insight into why crime has gone up since last year. (E) tells us that numerous judges have been replaced in the last year. It is possible that the new judges are more lenient, but this would only strengthen the author's argument.

Q18 The increase in the number of newspaper articles exposed as fabrications serves to bolster the contention that publishers are more interested in boosting circulation than in printing the truth. Even minor publications have staffs to check such obvious fraud.

The argument above assumes that

- A. Newspaper stories exposed as fabrications are a recent phenomenon.
- B. Everything a newspaper prints must be factually verifiable.
- C. Fact checking is more comprehensive for minor publications than for major ones.
- D. Only recently have newspapers admitted to publishing intentionally fraudulent stories.
- E. The publishers of newspapers are the people who decide what to print in their newspapers.

Evidence: more newspaper articles exposed as fabrications.

Conclusion: Publishers want to increase circulation, not print the truth.

This conclusion makes sense only if we assume (E), that the publishers are the ones who decide what to print. If (E) weren't true and this decision was up to someone other than the publisher, the argument would fall apart.

Q19 Time and again it has been shown that students who attend colleges with low faculty/student ratios get the most well-rounded education. As a result, when my children are ready to attend college, I'll be sure they attend a school with a very small student population.

Which of the following, if true, identifies the greatest flaw in the reasoning above?

- A. A low faculty/student ratio is the effect of a well-rounded education, not its source.
- B. Intelligence should be considered the result of childhood environment, not advanced education.

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- C. A very small student population does not by itself, ensure a low faculty/student ratio.
 - D. Parental desires and preferences rarely determine a child's choice of a college or university.
 - E. Students must take advantage of the low faculty/student ratio by intentionally choosing small classes.

The evidence says that students who attend colleges with low faculty/student ratios get well-rounded educations, but the conclusion is that the author will send his kids to colleges with small student populations. Since colleges can have the second without necessarily having the first, (C) is correct.

Q20 All German philosophers, except for Marx, are idealists.

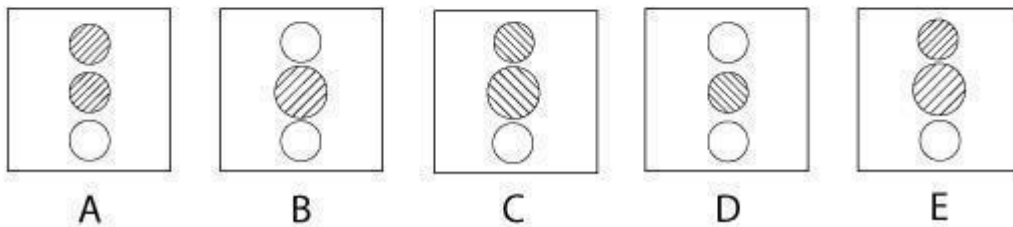
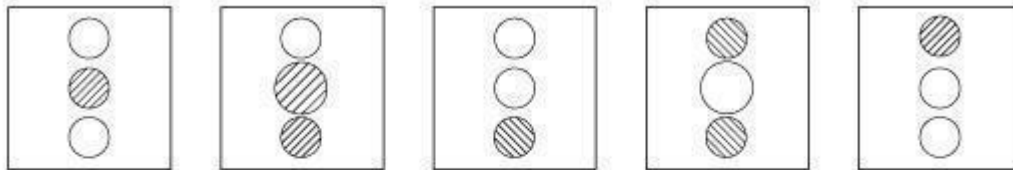
From which of the following can the statement above be most properly inferred?

- A. Except for Marx, if someone is an idealist philosopher, then he or she is German.
- B. Marx is the only non-German philosopher who is an idealist.
- C. If a German is an idealist, then he or she is a philosopher, as long as he or she is not Marx.
- D. Marx is not an idealist German philosopher.
- E. Aside from the philosopher Marx, if someone is a German philosopher, then he or she is an idealist.

The question stem asks you to pick the choice from which the statement can be derived, and that's (E). If, as (E) says, anyone who is German is an idealist except for Marx, then all Germans except for Marx are idealists. That being the case, it would certainly be true that, as the stimulus says, with the exception of Marx, all German philosopher—being a subset of all Germans—are idealists. While this may sound absurd, we're concerned with strict logic here, not content.

In each question you will be presented with a logical sequence of five figures. You will need to determine which of the possible answers best matches the next figure in the sequence, or replaces the missing figure in the sequence.

Q21



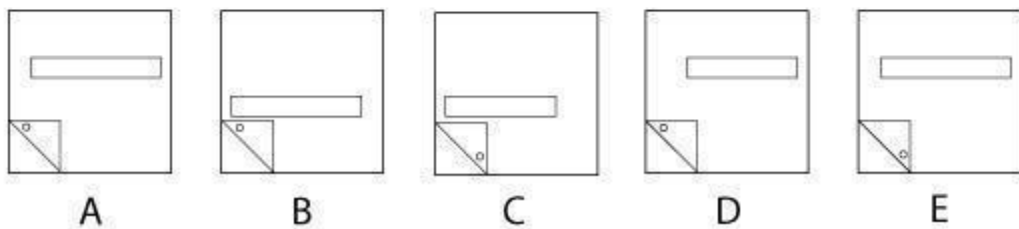
The correct answer is E

First Rule: The cross-hatching alternates between being applied to the circle below the shaded one (wrapping round to the top when no circle is available below) and removed from the circle that has had the cross-hatching for two consecutive figures.

Second Rule: The middle circle alternates between being half-way between the other circles in size and being bigger than both of them.

Third Rule: The cross hatching slopes upwards for two figures then downwards for two figures. This sequence then repeats.

Q22



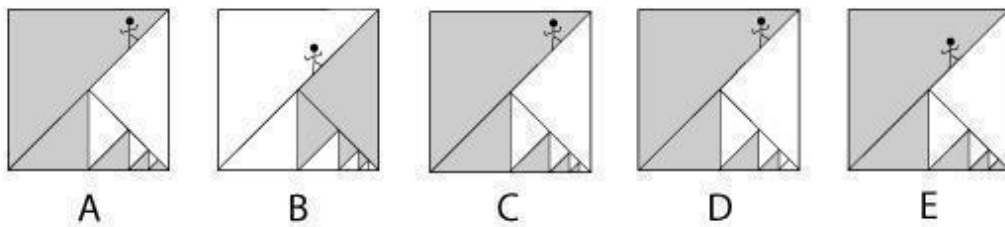
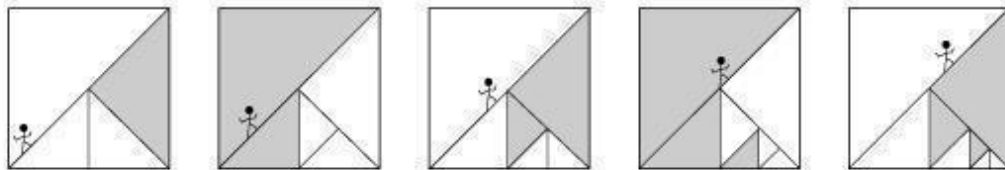
The correct answer is A

First Rule: The triangle with a dot in one corner alternates between mirrored in a diagonal from the top left of the figure to the bottom right and mirrored in a diagonal from the top right of the figure to the bottom left.

Second Rule: The rectangle alternates between being mirrored vertically and mirrored horizontally.

Third Rule: The rectangle also increases in width by a uniform amount every time, in a direction that is away from the closest edge of the figure.

Q23



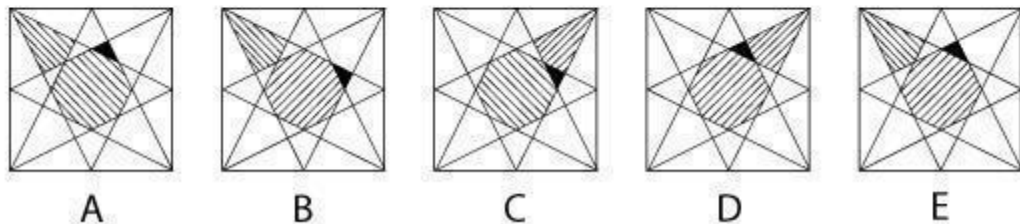
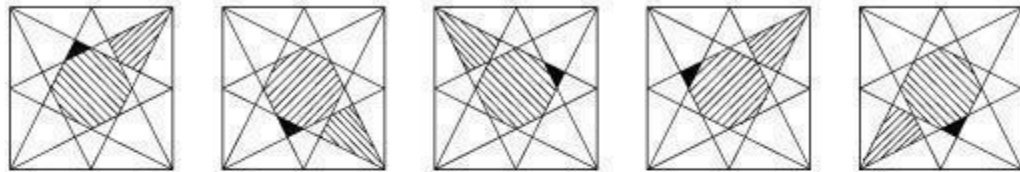
The correct answer is D

First Rule: Every time, the small triangle nearest the bottom right corner is split into two equal triangles of the same proportions.

Second Rule: The two, newly created, smallest triangles are always unshaded. The rest alternate between being shaded and unshaded in each image.

Third Rule: The stick figure moves up the hypotenuse of the largest triangle by an equal amount every time.

Q24



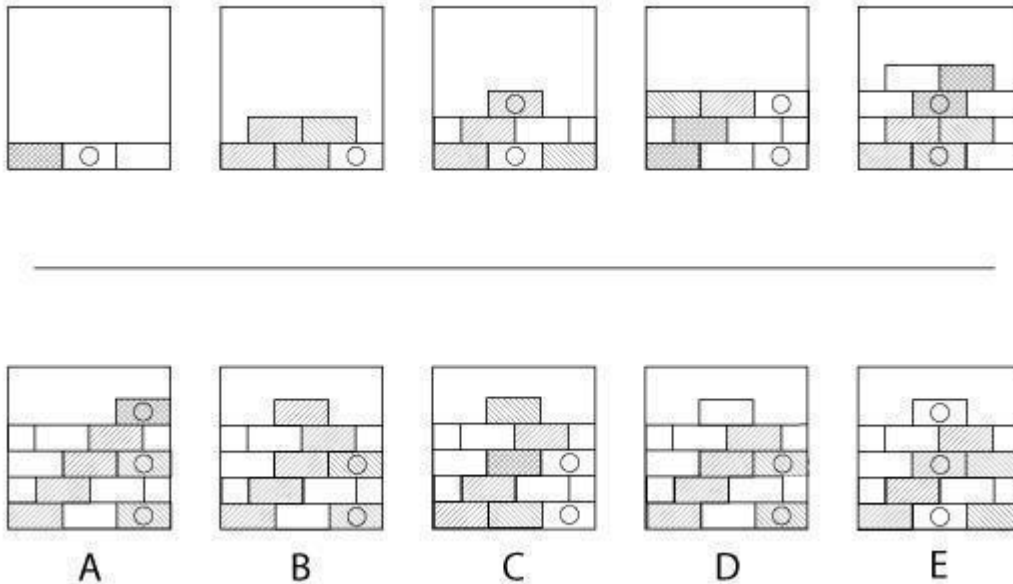
The correct answer is E

First Rule: The shading of the small triangles moves 3 triangles anti-clockwise each time.

Second Rule: The cross-hatching on the kite shapes near the corners of the figure, which is always in the direction of the nearest corner, moves clockwise, alternating between moving one shape and moving two.

Third Rule: The centre shapes alternates between having downward sloping cross-hatching and having upward sloping cross-hatching.

Q25



The correct answer is D

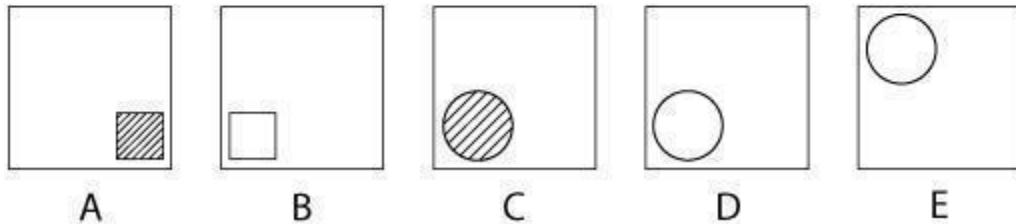
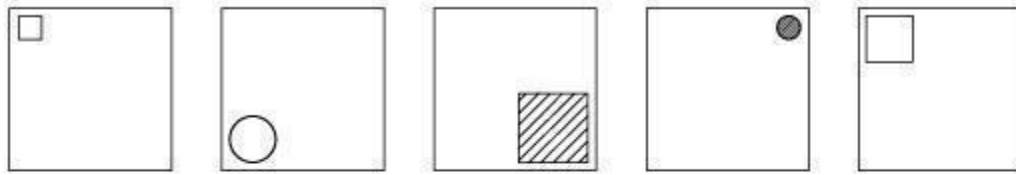
First Rule: Two bricks are added each time, starting from the centre and working outwards. Each row is completed before the next is started, and addition of two half bricks counts as adding one whole brick.

Second Rule: Bricks on the bottom left to top right diagonal have upward sloping cross-hatching.

Third Rule: The circle alternates between being on whole bricks that are central, and whole bricks that are on the far right.

Fourth Rule: Reading left to right, downward sloping cross-hatching is applied to the first, then second, then third full brick on every row, with incomplete rows being treated as though they were complete when determining this pattern. This sequence then repeats.

Q26



The correct answer is D.

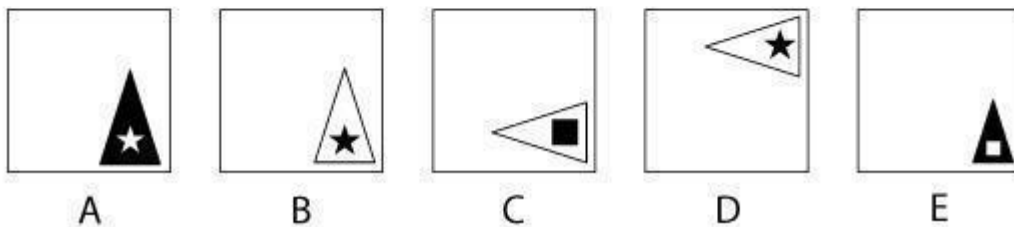
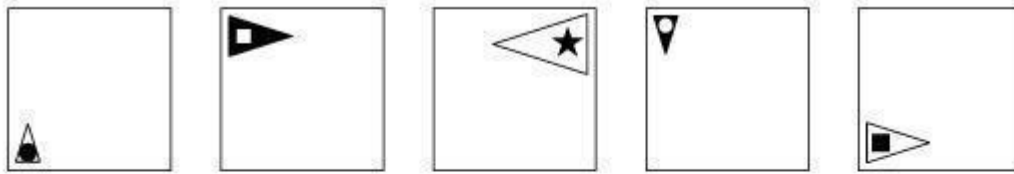
Rule 1: The shapes move one corner anticlockwise each time.

Rule 2: The shapes alternate between circle and square.

Rule 3: The hatching changes between hatched and unhatched every other graphic in the sequence. I.e. off, off, on, on, off, off ... and so on.

Rule 4: The shapes grow small, medium, then large, then start again.

Q27



The correct answer is A.

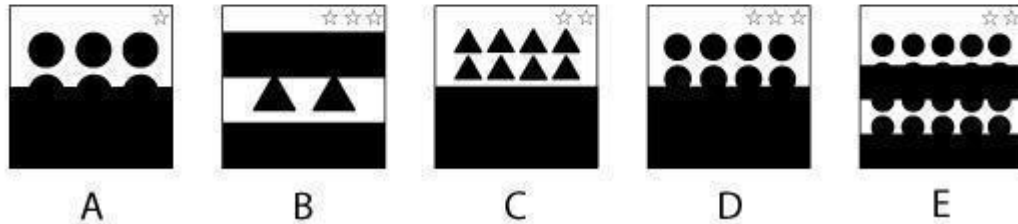
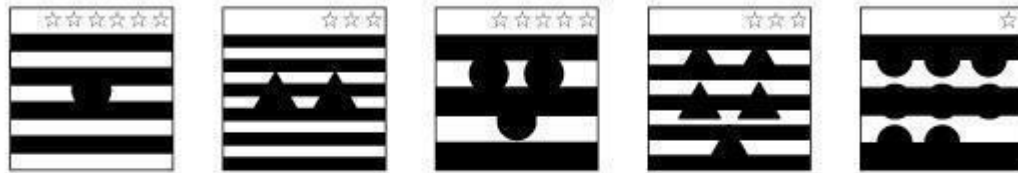
Rule 1: The position of the shapes in the current item is determined by the direction the triangle is pointing in the previous item. There is no rule to determine the direction of the arrow in the current item, only its position.

Rule 2: The shape inside the triangle changes in the repeating sequence circle, square, star.

Rule 3: The shading in the shapes alternates between the shape in the middle and the triangle.

Rule 4: The shapes grow small, medium, large then back to small, medium etc.

Q28



The correct answer is C.

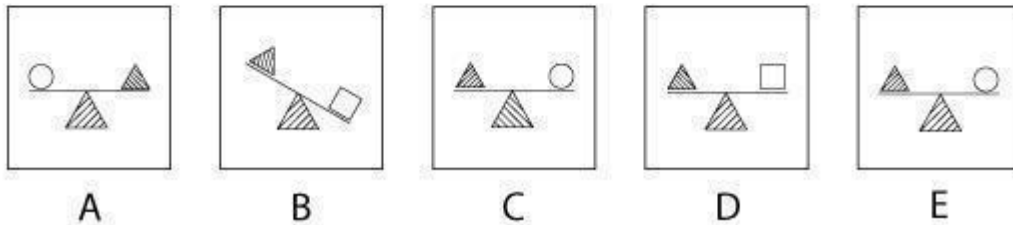
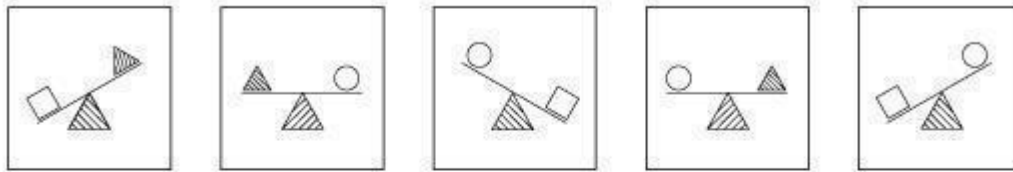
Rule 1: The number of stars in the top right predicts how many horizontal lines will be in the next box.

Rule 2: The circles alternate with triangles.

Rule 3: The number of circles or triangles is the sum of the number of circles and triangles in the previous two boxes, with the black shading obscuring some shapes.

Note: even though the black shading is obscuring some of the 13 triangles, it is possible to see that C is the correct answer by process of elimination; i.e. a particular rule excludes all of the other possible answers.

Q29



The correct answer is A

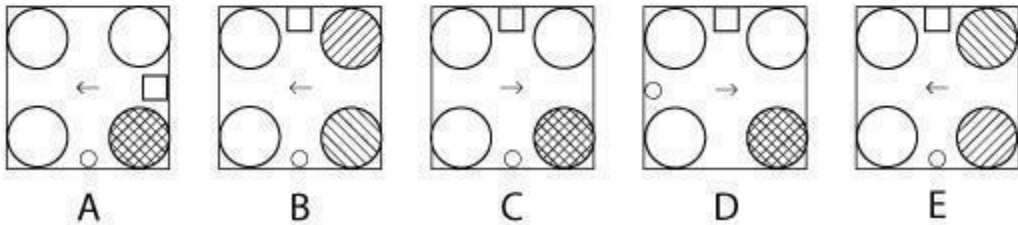
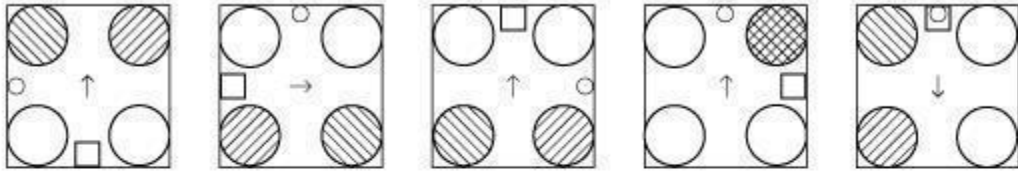
First Rule: The scales are tipped fully to the left, then straight, then tipped fully to the right, then straight. This sequence then repeats.

Second Rule: Squares weigh more than triangles and circles, which weigh the same as each other.

Third Rule: The support for the scales alternates between having downward cross-hatching and having upwards cross-hatching.

Fourth Rule: The cross hatching of any triangles being 'weighed' is the opposite of that of the support.

Q30



The correct answer is C

First Rule: The downward sloping cross-hatching follows the sequence top left circle, bottom right circle, bottom left circle, top right circle. This sequence then repeats.

Second Rule: The upward sloping cross-hatching follows the sequence top right circle, bottom left circle, bottom right circle. This sequence then repeats.

Third Rule: The arrow points to where the small circle will be in the next figure.

Fourth Rule: The square is in the position occupied by the small circle in the previous figure.

Every business organization operating in Nigeria must pay V.A.T (Value Added Tax) of 17.5% on the profit they make for the product they sell or service they render. However, if your organization is registered with VISCO Tax company you will be partly exempted from paying V.A.T on your goods or services.

Every business organization registered with VISCO pays a tax of 15%.

Using the table below that shows income for June 2013, solve Question 31 – 35

Company Name	Durables(₦)	Perishables(₦)	Services(₦)
Annex & Co	150,000	175,000	50,000
Bisco Solutions	125,000	180,000	25,000
Casper Nig. Ltd.	85,000	200,000	40,000

Q31 How much V.A.T will Annex and Co pay for V.A.T for its services if it is registered with VISCO Tax Company and it made a profit of 10% for the month of June.

- A. ₦ 1050 B. ₦ 950 C. ₦ 850 D. ₦ 750 E. ₦ 650

$$\begin{aligned} \text{Profit for Service} &= 10\% \text{ of } 50,000 \\ &= (10/100) \times 50,000 \\ &= 5000 \end{aligned}$$

$$\begin{aligned} \text{V.A.T} &= 15\% \text{ of } 5000 \\ &= (15/100) \times 5000 \\ &= \text{₦}750 \text{ (D)} \end{aligned}$$

Q32 Bisco Solutions is not registered with VISCO Tax Company and it made a profit that is half its perishable income. How much V.A.T would Bisco pay for its perishable goods.

A. ₦ 14,000 B. ₦ 15,000 C. ₦ 15,300 D. ₦ 15,500 E. ₦ 16,000

$$\begin{aligned} \text{Profit} &= \text{Half of Bisco Solution's Income} \\ &= \frac{1}{2} \text{ of } 180,000 \\ &= \frac{1}{2} \times 180,000 \\ &= \text{₦}90,000 \end{aligned}$$

$$\begin{aligned} \text{V.A.T} &= 17\% \text{ of } 90,000 \text{ (We use 17\% because Bisco is not registered with VISCO Tax)} \\ &= \text{₦}15,300 \text{ (C)} \end{aligned}$$

Q33 If all three Companies was owned by ABC & Co Nig Ltd and ABC is registered with VISCO Tax Company. How much V.A.T would ABC & Co pay for its services if it made a profit of 40%

A. ₦ 17,250 B. ₦ 17,000 C. ₦ 16,500 D. ₦ 16,250 E. ₦ 16,000

$$\begin{aligned} \text{Total Income} &= 50,000 + 25,000 + 40,000 \\ &= \text{₦}115,000 \end{aligned}$$

$$\begin{aligned} \text{V.A.T} &= 15\% \text{ of } 115,000 \\ &= \text{₦}17,250 \text{ (A)} \end{aligned}$$

Q34 Casper made service income without incurring any cost in service provision. If Casper is registered with VISCO Tax Company. How much V.A.T would it pay.

- A. ₦ 3000 B. ₦ 4000 C. ₦ 5000 D. ₦ 5,500 E. ₦ 6000

Since Casper is registered with Visco (Tax rate = 15%)

V.A.T = 15% of 40,000 (Since no cost is incurred)

= ₦6,000 (D)

Q35 How much would Annex & Co pay for V.A.T for its Durable goods income if it is not registered with VISCO Tax Company. Profit for June for Durable goods is 100,000

- A ₦ 12,800 B. ₦ 14,000 C. ₦ 17,000 D. ₦ 18,280 E. ₦ 19,000

If Annex and co is not registered (V.A.T = 17%)

V.A.T = 17% of 100,000

= ₦17,000

Western Region - Store location	Number of sales staff	Units sold					
		Week 1		Week 2		Week 3	
		Actual	Target	Actual	Target	Actual	Target
Redcliff	8	20	15	20	25	35	35
Ather	9	30	20	40	25	40	35
Wilkington	5	25	20	18	25	24	30
Trew	8	15	10	14	15	12	15
Tunston	6	5	10	6	15	9	15

Q36 For Weeks 1 and 3, across all 5 stores combined, what was the difference (in units) between Actual and Target sales volumes?

- (A) 10 over target (Week 1); 10 under target (Week 3)
- (B) 10 over target (Week 1); 15 under target (Week 3)
- (C) 15 over target (Week 1); 10 under target (Week 3)
- (D) 15 over target (Week 1); 15 under target (Week 3)
- (E) 20 over target (Week 1); 10 under target (Week 3)

Step 1 – Calculate the total Week 1 and Week 3 sales across the 5 Stores

Week 1: $20 + 30 + 25 + 15 + 5 = 95$

Week 3: $35 + 40 + 24 + 12 + 9 = 120$

Step 2 - Calculate the total Week 1 and Week 3 targets across the 5 Stores

Week 1: $15 + 20 + 20 + 10 + 10 = 75$

Week 3: $35 + 35 + 30 + 15 + 15 = 130$

Step 3 – Calculate the difference for Weeks 1 and 3
Week 1: $95 - 75 = 20$ over target

Week 3: $120 - 130 = 10$ under target

Thus the correct answer is (E) 20 over target (Week 1); 10 under target (Week 3)

Q37 Over the three week period, which Store achieved the highest sales per sales staff member?

- (A) Redcliff
- (B) Ather
- (C) Wilkington
- (D) Trew
- (E) Tunston

Step 1 – Calculate each Store’s total sales

Use the Actual sales figures for each of the 3 weeks, as follows:

<i>Redcliff</i>	<i>$20 + 20 + 35 = 75$</i>
<i>Ather</i>	<i>$30 + 40 + 40 = 110$</i>
<i>Wilkington</i>	<i>$25 + 18 + 24 = 67$</i>
<i>Trew</i>	<i>$15 + 14 + 12 = 41$</i>
<i>Tunston</i>	<i>$5 + 6 + 9 = 20$</i>

Step 2 – Calculate each Store’s average sales per sales staff member, as follows:

<i>Redcliff</i>	<i>$75 / 8 = 9.4$</i>
<i>Ather</i>	<i>$110 / 9 = 12.2$</i>
<i>Wilkington</i>	<i>$67 / 5 = 13.4$</i>
<i>Trew</i>	<i>$41 / 8 = 5.1$</i>
<i>Tunston</i>	<i>$20 / 6 = 3.3$</i>

Thus the correct answer is (C) Wilkington

Q38 Next year staff numbers are to be reduced by 1 at stores with 6 or less staff, and by 2 staff at all other stores. What will be the average monthly target per staff member across all 5 stores if the regional target (across the 5 stores) is £168,000?

- (A) £5,000
- (B) £6,000
- (C) £7,000
- (D) £8,000
- (E) £9,000

Step 1 – Calculate the new staff numbers

Redcliff	8 – 2 = 6 staff
Ather	9 – 2 = 7 staff
Wilkington	5 – 1 = 4 staff
Trew	8 – 2 = 6 staff
Tunston	6 – 1 = 5 staff

Step 2 – Calculate the average target per staff member

Average = target / total number of staff = 168,000 / 28 = £6,000

Thus the correct answer is (B) £6,000

Q39 The Western Region's overall sales (£120,000) were in a ratio of 3:2 to the Eastern Region's sales which itself had half the sales of the Northern and Southern Regions combined. What were the total sales of all 4 Regions?

- (A) £180,000
- (B) £200,000
- (C) £220,000
- (D) £240,000
- (E) £360,000

Step 1 – Calculate each Region's sales

Eastern Region's sales = 2 x 120,000 / 3 = 80,000

Northern + Southern Regions' sales = 80,000 x 2 = 160,000

Step 2 – Calculate the total sales $120,000 + 80,000 + 160,000 = 360,000$

Thus the correct answer is (E) £360,000

Q40 All sales in the three week period were based on an average £9.50 reduction in the sales price of the units sold. What was the total saving made by customers who bought units over the 3 week period (to the nearest £100)?

- (A) £3,000
- (B) £3,500
- (C) £4,000
- (D) £4,500
- (E) £5,000

Step 1 – Calculate the total sales

We could use the working from Q6 to obtain

Week 1 and Week 3 sales totals. Week 2 sales

$$= 20 + 40 + 18 + 14 + 6 = 98$$

$$\text{Total sales} = \text{Week 1} + \text{Week 2} + \text{Week 3} = 95 + 98 + 120 = 313$$

Step 2 – Calculate the amount saved $313 \times £9.50 = £2,973.50$

Step 3 - (to the nearest £100) $£2,973.50 = £3,000$

Thus the correct answer is (A) £3,000

Tip: when summing numbers from a column or row, be careful not to take numbers from an adjacent category. It is

also a good idea to enter the numbers as you go straight into your calculator, instead of writing out the sum on your rough paper then performing the calculation. This will reduce the number of stages in your working and save time and reduce the potential for input errors.

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

Q41 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

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) 5:4:3

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

Q42 Which country met or exceeded its annual target for unit sales?

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

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

Q43 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

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

Q44 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) 78,000

Step 1 – Calculate the total value of Austrian unit sales $Total\ Austrian\ unit\ sales = 105,800$

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

Step 2 - Calculate the corporation tax for the first 200,000 of Austrian unit sales
 $200,000 \times 22\% = 44,000$

Step 3 - Calculate the tax for sales exceeding 200,000
 $370,300 - 200,000 = 170,300$
 $170,300 \times 20\% = 34,060$

Step 4 – Calculate the total tax $44,000 + 34,060$

Thus the correct answer is (E) 78,060

Q45 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

Step 1 – Calculate the total unit sales for each country Using the earlier question's total unit sales for each country
Greece
 $= 108,300 \times 2.5 = 270,750$

Portugal $= 104,200 \times 2.25 = 234,450$ *Austria* $= 105,800 \times 2.25 = 238,050$ *Ireland* $= 102,400 \times 2.5 = 256,000$ *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

Sales (£millions)

	US (Jan-June)	US (July-Dec)	Annual US Sales Target	EU (Jan-June)	EU (July-Dec)	Annual EU Sales Target	Worldwide Sales (Jan-Dec)
Product A	54.5	50.5	110	90.5	91.4	180	320
Product B	61.1	59.2	120	72.2	77.8	160	300
Product C	60.5	58	120	88	92.2	180	330
Product D	76.5	74.1	150	105.3	98.2	200	380
Product E	72.7	78.2	150	89.2	94.8	190	350

**US annual sales tax: 24% on the first £130 million of sales, 0% thereafter.
EU annual sales tax: 22% on all sales.**

Q46 If worldwide sales comprise US sales, EU sales and Far Eastern sales, which products had the highest annual Far Eastern Sales?

- (A) Product A
- (B) Product B
- (C) Product C
- (D) Product D
- (E) Product E

Step 1 - Sum the half-yearly US and the EU sales to get the annual sales for each product:

	<i>US annual sales</i>	<i>EU annual sales</i>	<i>US annual sales + EU annual sales</i>
<i>Product A</i>	105	181.9	286.9
<i>Product B</i>	120.3	150	270.3
<i>Product C</i>	118.5	180.2	298.7
<i>Product D</i>	150.6	203.5	354.1
<i>Product E</i>	150.9	184	334.9

Step 2 – Calculate Far Eastern sales for each product (= worldwide sales - US annual sales + EU annual sales)

<i>Product A</i>	$320 - 286.9 = 33.1$
<i>Product B</i>	$300 - 270.3 = 29.7$
<i>Product C</i>	$330 - 298.7 = 31.3$
<i>Product D</i>	$380 - 354.1 = 25.9$
<i>Product E</i>	$350 - 334.9 = 15.1$

Tip: in practice, when the time is ticking, you wouldn't bother writing down the sums; you'd just enter the numbers for each product straight into your calculator and write down the Far Eastern Sales. You're also less likely to make a data-entry mistake this way.

Thus the correct answer is (A) Product

Q47 For the five products combined there was a difference between total annual Sales and the total annual Sales Target. How did this difference compare for the US and the EU?

- (A) £27.1 million (US); £25.8 million (EU)
- (B) £638.3 million (US); £908.2 million (EU)
- (C) £4.7 million (US); £10.4 million (EU)
- (D) £271.7 million (US); £258.2 million (EU)
- (E) Cannot Tell

**Step 1 – Sum the Jan-June sales (US) and the July-Dec sales (US) $325.3 + 320 =$
£645.3 million**

**Step 2 – Calculate the difference compared to the US target (£650 million)
 $650 - 645.3 =$ £4.7 million**

**Step 3 – Sum the Jan-June (European) and the July-Dec sales (EU) $445.2 + 454.4$
 $=$ £899.6 million**

Step 4 – Calculate the difference compared to the European target (£910 million)
 $910 - 899.6 = \text{£}10.4 \text{ million}$

Tip - In this question, it would have been possible to answer the question after working out just the US difference, but this is often not the case.

Thus the correct answer is (C) £4.7 million (US); £10.4 million (EU)

Q48 If the annual EU sales for Products B and C both comprise online: offline sales in a ratio of 2:3 then what are the online EU sales for Products B and C combined?

- (A) £198,120,000
- (B) £19,812,000
- (C) £13,208,000
- (D) £132,080,000
- (E) None of These

Step 1 – Calculate the EU sales for Products B and C
 $88.0 + 92.2 + 72.2 + 77.8$
 $= 330.2 \text{ (£million)}$

Step 2 – Use the ratio to find online sales.

online: offline = 2:3

$$330.2 = 2x + 3x = 5x$$

$$x = 330.2/5 = 66.04$$

$$\text{online sales} = 2x = 132.08$$

Tip - In practice it's quicker to just multiply 330.2 by (2/5) to obtain the ratio.

Thus the correct answer is (D)
£132,080,000

Q49 How much US and EU annual sales tax is due for Products B, C and D combined (to the nearest £million)?

- (A) £244 million
- (B) £211 million
- (C) £149 million
- (D) £243 million
- (E) £120 million

Step 1 - Calculate the US sales tax for Products B, C, D combined.

	US annual sales	US Sales tax on first £130 million
Products B, C, D	$120.3 + 118.5 + 150.6 = 389.4$	$130 \times 0.24 = 31.2$ (£million)
Total US sales tax = £31.2 million		

Step 2 - Calculate the European sales tax

	EU annual sales	EU sales tax
Products B, C, D	$150 + 180.2 + 203.5 = 533.7$	$533.7 \times 0.22 = 117.414$ (£million)
Total EU sales tax = £117.414 million		

Step 3 – Calculate the total sales tax $31.2 + 117.414 = 148.614$

Tip - Notice as long as you check the US sales are over £130 million, you don't actually have to calculate the total because there is no tax on sales over £130 million.

Thus the correct answer is (C) £149 million

Q50 Which of the following represents the smallest amount?

- (A) Product B's change in EU sales between Jan-June and July-Dec
- (B) 7% of Product D's US sales (Jan-June)
- (C) Product E's change in US sales between Jan-June and July-Dec
- (D) Average US Product A sales per month (July-Dec)
- (E) Average US Product C sales per month (Jan-June)

Step 1 - Calculate each figure as follows;

$$77.8 - 72.2 = \text{£}5.6 \text{ million}$$

$$76.5 \times 0.07 = \text{£}5.355 \text{ million}$$

$$78.2 - 72.7 = \text{£}5.5 \text{ million}$$

$$50.5 / 6 = \text{£}8.42 \text{ million}$$

$$60.5 / 6 = \text{£}10.08 \text{ million}$$

Tip: Remember to quickly re-scan the question because some people will put down the LARGEST value (E) not the SMALLEST (B).

Thus the correct answer is (B) 7% of Product D's US sales (Jan-June)