

Detailed Solution Model Test 11
General Study Paper II

1. (b) explaining how human activities are posing a threat to coral reef communities (Because the second para tells about the various human activities which are a threat to coral reef communities)
2. (a) Coral reef communities may actually be more likely to thrive in waters that are relatively low in nutrients. (Because the "waste by-products all increase nutrient loads in these waters")
- 3.. (a) provide an example of a characteristic sign of reef deterioration (Because "Typical symptoms of reef decline are destabilized herbivore populations and an increasing abundance of algae and filter-feeding animals")
- 4.. (d) Waste by-products result in an increase in nutrient input to reef communities (Because "Agriculture, slash-and-burn land clearing, sewage disposal and manufacturing that creates waste by-products all increase nutrient loads in these waters")
- 5.. (c) They are able to survive in an environment with limited food resources (Because the first para states that "how do clear, and thus nutrient-poor, waters support such prolific and productive communities?")
6. (d) the effect of new discoveries regarding globular clusters on theories about the formation of the Milky Way galaxy (Because the "New observations about the age of some globular clusters in our Milky Way galaxy have cast doubt on a long-held theory about how the galaxy was formed")
7. (a) amount of time it took to form the galaxy (Because the last para tells about the Richard Larson's explanation to "explain the age differences among the globular clusters")
8. (b) A study of over 1,500 individual stars in the halo of the Milky Way galaxy indicates wide discrepancies in there ages (Because the passage tells about the "considerable variation in the ages of globular clusters")
9. (c) 7 billion years younger than another cluster in the galaxy (Because Bolte has suggested a difference of 2 billion years and his colleagure has sugested a difference of 5 years")
10. (d) provides theoretical support for the ideas suggested by Larson (Becasue the last para tells that "Larson's conception of a "lumpy and turbulent" protogalaxy is complemented by computer modeling done in the 1970's by mathematician Alan Toomre")
11. (b) The ages of at least some globular clusters in the Milky Way galaxy differ by at least 4 billion years (Because the third paragraph tells that there could be a difference of + or - 2 billion years)

12. (a) indicate that the theories in question are no longer as unconventional as they once seemed (renegade literally means having deserted a cause or principle and here "astronomers are taking a second look" so these theories are no longer unconventional)

While most forms of discrimination in the workplace have been outlawed, discrimination or bias against some employees seeking career advancement still happens. This discrimination is both unwritten and unacknowledged. A 'Glass Ceiling' is the term used to describe this type of discrimination and refers to the invisible barrier that people hit when they try to progress beyond a certain level in some businesses and organisations. Originally coined to illustrate the hidden use of sexual discrimination against women in professional environments, it is now commonly used to describe any form of discrimination, such as racism or ageism, which prevents qualified and experienced employees reaching the higher levels of their organisation. Many reports and studies now suggest that change is happening and that cracks are beginning to appear in the glass. The studies also claim however that change is happening slowly and that the cracks are small.

Q13 A 'Glass Ceiling' specifically describes sexual discrimination in the modern workplace.

False

The article explicitly states this was its original meaning but in recent times it has changed to encompass any form of discrimination that halts career progression.

Q14 Positive changes are occurring regarding discrimination in the workplace.

Cannot say

This is a sneaky one. The passage states that "Many reports and studies now suggest that change is happening and that cracks [in the glass ceiling] are beginning to appear". The next sentence tells us "studies also claim however that change is happening...". So the passage is telling us that reports have suggested change is happening, but the passage does not go as far as telling us if these reports are true or false, so we cannot say.

Q15 The 'Glass Ceiling' can prevent qualified people from getting to the top of their field.

True

We are told that "in some businesses and organisations" the glass ceiling blocks people who are "qualified and experienced" for the role but are discriminated against. We are not told at what level this can occur, but since the statement refers to the "top of their field", i.e. the very highest position, we can deduce that the glass ceiling would come into play before developing to the very top of their field.

The Flying Shuttle and the Spinning Jenny are two early 18th century British inventions that revolutionised the textile industry. They increased productivity by automating some key processes thereby reducing the amount of manual operation needed. The Flying Shuttle, for example, raised the productivity of manual weaving by around 50 percent by returning the shuttle automatically meaning that one worker could do the work that previously had been done by two. The Spinning Jenny invented a couple of decades later similarly automated processes allowing one spinner to do more. Reducing the amount of manual intervention needed for these tasks meant that they were more suitable for adaptation to mechanical power such as waterpower and steam which had become the new means of propulsion shortly before their invention.

Q16 Automating the production process of weaving was a necessary precursor to the application of steam power.

False

The article states that automating the processes meant that they were better suited to

steam power, “which had become the new means of propulsion shortly before their invention” i.e. steam propulsion was developed before automated weaving.

Q17 The two inventions led to job losses in the textile industry.

Cannot say

The text makes no mention of this. Whilst we are told that manual labour was reduced for the same output, it may or may not be the case that this led to job losses.

Q18 Steam as a propulsion system was introduced into the textile industry after waterpower.

Cannot say

This is a fairly straightforward one. The text does not state whether steam or water was the first to be introduced into the textile industry. If something is not mentioned in the passage, we cannot say whether the statement is true or false.

Proponents of recycling are adamant that we must preserve the world’s precious natural resources by reducing our consumption of new raw materials. They say that to accomplish this all we need to do is to reuse or recycle many materials that traditionally would be thrown away and end up in landfill sites. Many local authorities have designed and implemented full end-to-end recycling programmes. A critical factor in the success of any waste management and recycling programme is the ability to clearly communicate waste disposal and depositing policy to the public. The majority of people are willing to participate, but they are more likely to participate if they can easily understand what goes where. They are also less likely to make errors and put something in the wrong place, which can cause costly problems. Supporters claim that the more we recycle the less it costs, however some critics counterclaim that recycling actually consumes more resource than it saves and in the long run is doing more harm than good.

Q19 Recycling advocates are arguing that we must recycle all our waste to preserve the world’s natural resources.

False

The text makes no such claims but states that people in such groups are arguing for the recycling of “many materials that traditionally would be thrown away” i.e. not all waste.

Q20 Some people say that recycling is an inefficient use of resources.

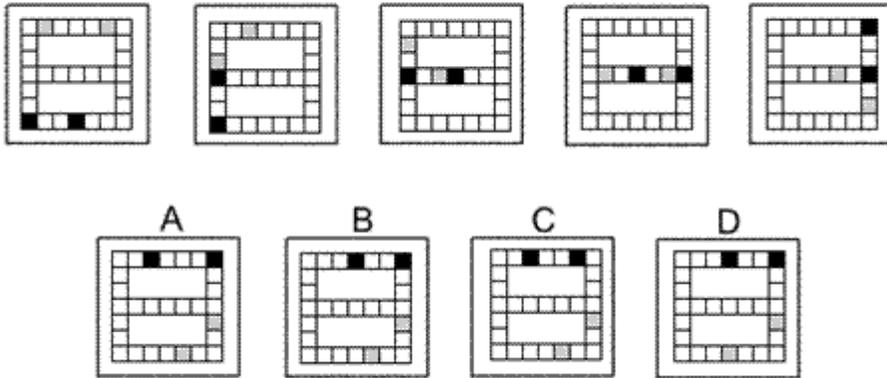
True

The text says that some critics claim recycling actually consumes more resource than it saves.

Q21 Most of the public are reluctant to participate in recycling because they do not know what goes where.

False

The text says that “the majority of people are willing to participate, but are more likely to participate if they can easily understand what goes where”. So we are told that the majority of the public are willing to participate in recycling. The second part of the statement about not knowing what goes where is irrelevant since we have already established that the majority of people are willing to recycle and therefore that the statement is false.



22. Solution: B

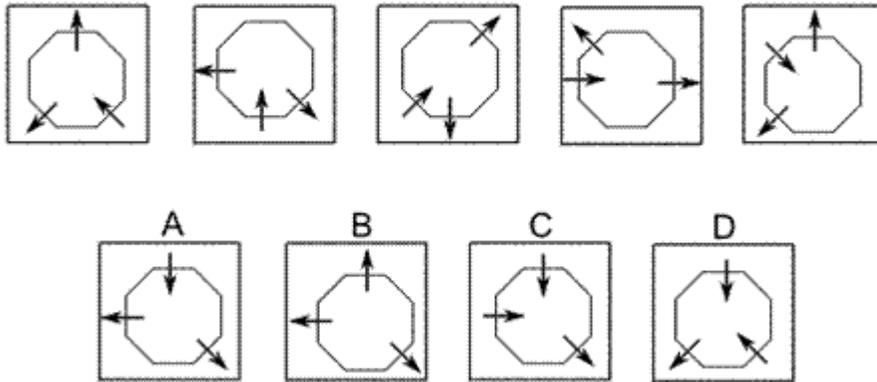
Explanation:

In this question there is a grid in the shape of a number 8.

There are two grey squares that start in the top row of the grid, moving three places at a time, and following a path resembling a letter S.

There are two black squares that start in the bottom row of the grid, moving three places at a time, and following a shape resembling a backwards letter S.

When these rules are applied, the next diagram of the sequence is B.



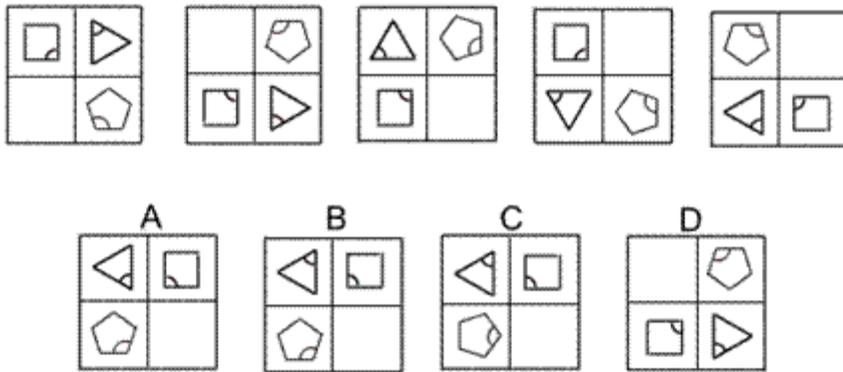
23. Solution: A

Explanation:

In this question there is an octagon with arrows perpendicular to three of its sides - two arrows point away from the centre of the octagon; the other arrow points towards the centre.

The two arrows pointing away from the centre rotate about the centre of the octagon each time by 90 degree anticlockwise. The one arrow pointing towards the centre rotates about the centre of the octagon by 45 degree clockwise each time.

When these rules are applied simultaneously, the correct answer is A.



24. Solution: B

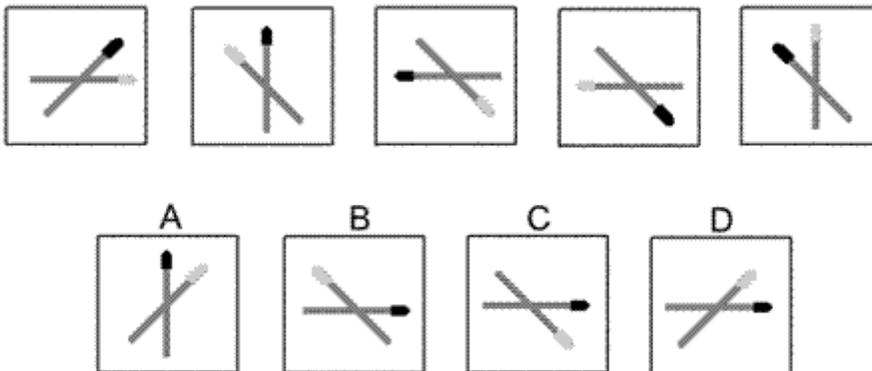
Explanation:

In this question there are two reflections that are applied alternately.

The first is a reflection in the horizontal axis.

The second is a reflection in the diagonal stretching from the bottom left corner to the top right corner.

To obtain the next diagram of the sequence the first reflection should be applied next, and the correct answer is B.



25.

Solution: D

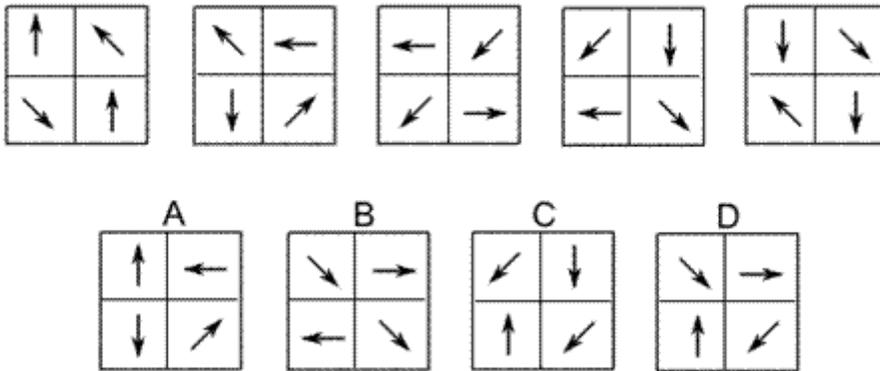
Explanation:

In this question there are two matchsticks - one with a black head, the other with a grey head.

The matchstick with the black head rotates by $1 \times 45^\circ = 45^\circ$ anticlockwise the first time, $2 \times 45^\circ =$

90° anticlockwise the second time, $3 \times 45^\circ = 135^\circ$ anticlockwise the third time etc. Following this rule, for the next diagram of the sequence it should rotate by $5 \times 45^\circ = 225^\circ$ anticlockwise. The correct answer could be B, C or D.

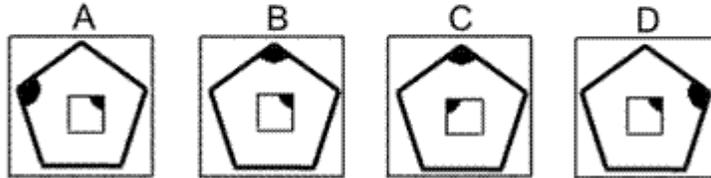
The matchstick with the grey head rotates by $5 \times 45^\circ = 225^\circ$ clockwise the first time, $4 \times 45^\circ = 180^\circ$ clockwise the second time, $3 \times 45^\circ = 135^\circ$ clockwise the third time etc. Following this rule also, for the next diagram of the sequence it should rotate by $1 \times 45^\circ = 45^\circ$ clockwise, and the correct answer is D.



26. Solution: D

Explanation:

In this question the two arrows in the top row rotate by 45 degree anticlockwise each time and the two arrows in the bottom row rotate by 45 degree clockwise each time. Following these rules, the correct answer is D.



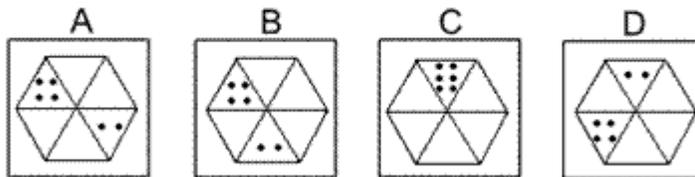
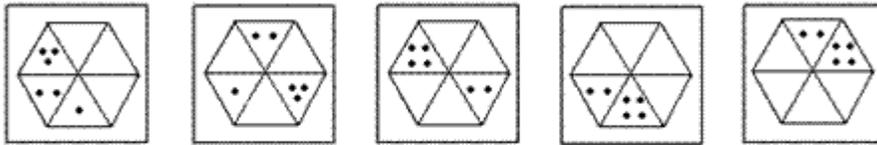
27. Solution: B

Explanation:

In this question there is a square inside a regular polygon. Each shape follows its own rule.

The square rotates by 90 degree anticlockwise each time. Following this rule, the next diagram of the sequence could be A, B or D.

The pentagon rotates by 144 degree clockwise each time. When this rule is also applied, the next diagram of the sequence must be B.

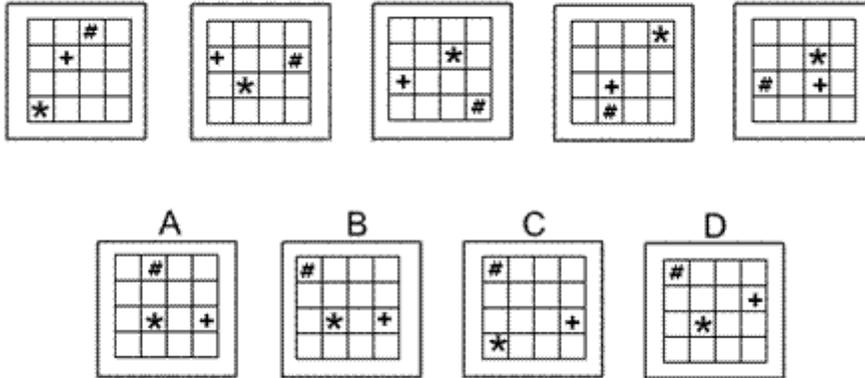


28. Solution: A

Explanation:

In this question the dots move clockwise around the six triangles of the hexagon, moving a number of places equal to the number of dots. When two sets of dots land on the same triangle, their scores are added together.

To obtain the next diagram of the sequence, therefore, the four dots should move four places clockwise and the two dots should move two places clockwise, and the correct answer is A.



29. Solution: B

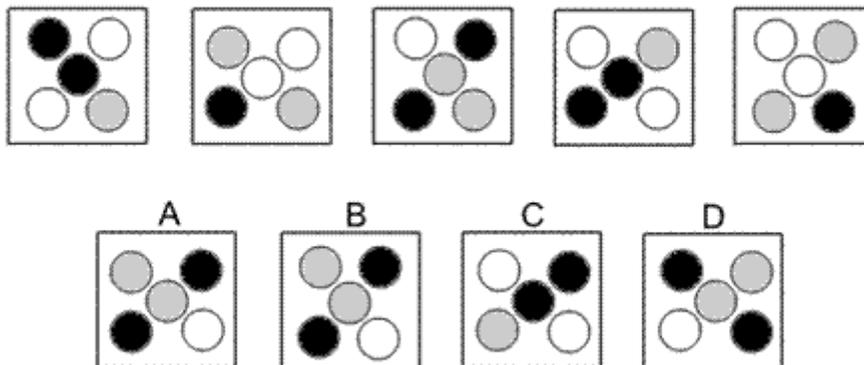
Explanation:

In this question there is an asterisk, a hash sign and a plus sign. Each shape moves around the grid according to its own rule.

The asterisk moves up and down the diagonal stretching from the bottom left of the grid to the top right of the grid, moving one place each time. When this rule is applied, the correct answer could be A, B or D.

The hash sign moves around the 12 squares around the perimeter of the grid, moving two squares clockwise each time. When this rule is also applied, the correct answer could be B or D.

The plus sign moves around the 8 squares of the middle two rows of the grid, moving one place anticlockwise each time. When this rule is also applied, the correct answer must be B.



30. Solution: D

Explanation:

In this question there are five coloured circles that rotate each time by 90 degree clockwise. When this rule is applied, the correct answer could be A, B or D.

At the same time the colours change from one diagram to the next - black changes to white, white changes to grey and grey changes to black. When this rule is also applied, the correct answer must be D.

31. **d.** This is an alternating addition series, in which 10 is added, then 5, then 10, and so on.

32. **a.** This is a subtraction series with repetition. Each number repeats itself and then decreases by 9.

33. **d.** This is an alternating subtraction series with repetition. There are two different patterns here. In the first, a number repeats itself; then 3 is added to that number to arrive at the next number, which also repeats. This gives the series 17, 17, 20, 20, 23, and so on. Every third number follows a second pattern, in which 3 is subtracted from each number to arrive at the next: 34, 31, 28.

34. **d.** This is an alternating addition series with a random number, 4, interpolated as every third number. In the main series, 1 is added, then 2 is added, then 1, then 2, and so on.

35. **d.** This is an alternating repetition series, in which a random number, 61, is interpolated as every third number into an otherwise simple subtraction series. Starting with the second number, 57, each number (except 61) is 7 less than the previous number.

36. **c.** We know only that long-tailed Gangles have spots. We cannot know for certain if longtailed Gangles also have short hair.

37. **c.** The first two statements indicate that Battery Y lasts the least amount of time, but it cannot be determined if Battery Z lasts longer than Battery X.

38.**b.** Given the information in the first two statements, Bryant is sitting in front of both Jerome and Martina, so the third statement must be false.

39.**b.** Because the first two statements are true, Penfield is west of Centerville and southwest of Middletown. Therefore, the third statement is false.

40. **c.** Both the car and the train are quicker than the bus, but there is no way to make a comparison between the train and the car.

41.**b.** Bread is to knife as log is to ax. This relationship shows function. The knife cuts the bread; the ax chops the log.

42.**b.** Closet is to shirt as kitchen cabinets are to cans of food. The shirt is stored in the closet; the food is stored in the cabinets.

43. **a.** Pyramid is to triangle as cube is to square. This relationship shows dimension. The triangle shows one dimension of the pyramid; the square is one dimension of the cube.

44. **c.** Toothbrush is to toothpaste as butter knife is to butter. This relationship shows function. The toothbrush is used to apply the toothpaste to teeth; the knife is used to apply butter to bread.

45. **c.** Fly is to ant as snake is to lizard. The fly and ant are both insects; the snake and lizard are both reptiles.

46. **a.** Sail is to sailboat as pedal is to bicycle. The sail makes the sailboat move; the pedal makes the bicycle move.

47. **d.** Hose is to firefighter as needle is to nurse. This relationship shows the tools of the trade. A hose is a tool used by a firefighter; a needle is a tool used by a nurse.

48. **c.** A U.S. flag is to a fireworks display as a Halloween mask is to a pumpkin. This relationship shows symbols. The flag and fireworks are symbols of the Fourth of July. The mask and pumpkin are symbols of Halloween.

49. **d.** Newspaper is to book as trumpet is to banjo. The newspaper and book are to read; the Trumpet and banjo are musical instruments to play.

50. **b.** Dishes are to kitchen sink as car is to hose. Dishes are cleaned in the sink; the car is cleaned with the hose.

51. d: since $\frac{\sqrt{3}}{2}$ is the length of the diagonal that runs from one corner of the cube to the opposite corner. $(PR)^2 = (PS)^2 + (SR)^2 = \left(\frac{1}{2}\right)^2 + \left(\frac{1}{2}\right)^2$, $(XR)^2 = (PR)^2 + (XP)^2 = \left(\frac{1}{2}\right)^2 + \left(\frac{1}{2}\right)^2 + \left(\frac{1}{2}\right)^2 = \frac{3}{4}$. Since $(XR)^2 = \frac{3}{4}$; $XR = \sqrt{\frac{3}{4}} = \frac{\sqrt{3}}{2}$.

52. c: **given**

$$2(-4a - 5b) - (8 + b) + b + (-2b + 4) - 5a$$

multiply factors

$$-8a - 10b - 8 - b + b - 2b + 4 - 5a$$

group like terms

$$-13a - 12b - 4$$

53. d: **given**

$$2(-3x - 5) - (8 - x) = -2(2x + 4) + 12$$

multiply factors

$$-6x - 10 - 8 + x = -4x - 8 + 12$$

group like terms

$$-5x - 18 = -4x + 4$$

add 18 to both sides

$$-5x - 18 + 18 = -4x + 4 + 18$$

group like terms

$$-5x = -4x + 22$$

add 4x to both sides

$$-5x + 4x = -4x + 22 + 4x$$

group like terms

$$-x = 22$$

multiply both sides by -1

$$x = -22$$

Check the solution

$$\text{left side: } 2(-3(-22) - 5) - (8 - (-22)) = 92$$

$$\text{right side: } -2(2(-22) + 4) + 12 = 92$$

Conclusion

$x = -22$ is the solution to the given equation

54. c: To simplify the given expression, we need to simplify the terms with absolute value using definition of absolute value.

$$\text{if } x \geq 0, |x| = x$$

$$\text{if } x < 0, |x| = -x$$

According to the definition of the absolute value above,

$$x > -2 \text{ (given above) is equivalent to } x + 2 > 0$$

$$\text{if } x + 2 > 0 \text{ then } |x + 2| = x + 2$$

the above definition gives

$$|6 - 9| = |-3| = 3$$

the whole expression given above can now be written as

$$2(x + 2) - 3x - (-2 - x) + 3$$

multiply factor

$$2x + 4 - 3x + 2 + x + 3$$

group like terms

$$9$$

55. c: We first write the equation in slope intercept form $y = mx + b$. Put terms in x and constant terms on the right side

$$2y = 3x + 10$$

Divide both sides by 2

$$y = (3/2)x + 5$$

Now that the equation is in slope intercept form, we identify the slope as the coefficient of x and is equal to $3/2$ and the y intercept as $(0, 5)$.

56. d: The probability of tossing heads is based on frequencies obtained in an experiment.

57. b: Find the number of times an 8 was spun during the experiment i.e, 13 out of 100

58. a: $9/10$ is close to 1.

59. c: The area of the whole dartboard is 25 square units. $15/25 = 3/5$

60. b: The probability of inheriting almost any trait can be predicted if the genetic makeup of the parents is known. The likelihood of both good and bad traits showing up in the phenotype can be determined using Punnett squares.

61. a. The relationship above the line is as follows; apples are a kind of fruit; fruit is sold in a supermarket. Below the line, the relationship is: a novel is a kind of book; books are sold in a bookstore.

62.d. The tadpole is a young frog; frogs are amphibians. The lamb is a young sheep; sheep are mammals. Animal (choice **a**) is incorrect because it is too large a grouping: Animals include insects, birds, mammals, reptiles, and amphibians. Choices **b** and **c** are incorrect because they are not part of the progression.

63.b. Walk, skip, and run represent a continuum of movement: Skipping is faster than walking; running is faster than skipping. Below the line, the continuum is about throwing: Pitch is faster than toss; hurl is faster than pitch.

64. **c**. The honeybee, angel, and bat all have wings; they are capable of flying. The kangaroo, rabbit, and grasshopper are all capable of hopping.

65. **a**. Above the line, the relationship is as follows: A daisy is a type of flower, and a flower is a type of plant. Below the line, the relationship is as follows: A bungalow is a type of house, and a house is a type of building.

66. Assume Nadia will be 10 in 2 years. How old was she 3 years ago? If she will be 10 in 2 years, she is 8 now and 3 years ago was 5. Which of the choices equals 5 when $x = 10$, $y = 2$, and $z = 3$? Only $x - y - z$ (**C**).

67. Let $d = 1$. Then $c = 3 \frac{1}{2}$, $b = 7 \frac{1}{2}$, and $a = 8$. Which of the choices equals 1 when $a = 8$? Only $(a-2)/6$ (**A**).

68. If Anne drove at 60 miles per hour for 2 hours, how far did she go in the last 20 minutes?

Since 20 minutes is $\frac{2}{3}$ of an hour, she went 20 ($\frac{1}{3}$ of 60) miles.

Only $r/3$ (**D**) = 20 when $r = 60$ and $h = 2$.

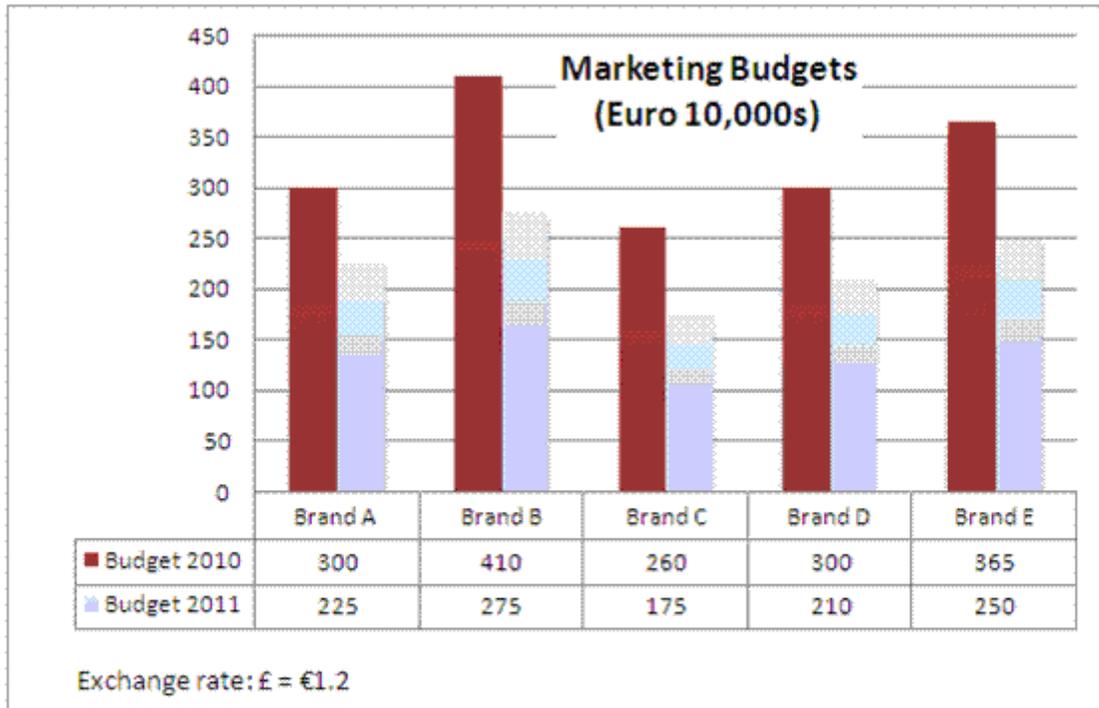
Notice that h is irrelevant. Whether Anne had been driving for 2 hours or 20 hours, the distance she covered in her last 20 minutes would be the same.

69. The least common denominator of $\frac{3}{4}$ and $\frac{1}{4}$ is 20, so assume that there are 20 students at Central High. (Remember that the number you choose doesn't have to be realistic.) Then the number of students taking Spanish is 12 ($\frac{3}{5}$ of 20). Of the remaining 8 students, 2 ($\frac{1}{4}$ of 8) take Italian. The other 6 take French. Finally, 6 is **30%** of 20. The answer is **D**.

70.

Solution. This problem involves percents, so try to use 100. Assume that in 2003 there were 100 boys and 100 girls in the club. Since 20% of 100 is 20, in 2004 there were 120 girls (a 20% increase) and 80 boys (a 20% decrease). See the following chart:

Year	Number of Girls	Number of Boys	Ratio of Girls to Boys
2003	100	100	$\frac{100}{100} = 1$
2004	120	80	$\frac{120}{80} = \frac{3}{2}$



Q71 Between 2010 and 2011 what is the total cut in the marketing budget across the 5 Brands (in €10,000s)?

- (A) 135
- (B) 400
- (C) 500
- (D) 1,135

Step 1 – calculate the 2010 total marketing budget for each Brand

$$300 + 410 + 260 + 300 + 365 = 1635$$

Step 2 – calculate the 2011 total marketing budget for each Brand

$$225 + 275 + 175 + 210 + 250 = 1135$$

Step 3 – calculate cut

$$2011 \text{ marketing budget} - 2010 \text{ marketing budget} = 1635 - 1135 = 500$$

So the correct answer is (C), 500

Q72 Which Brand has suffered the largest percentage cut in its Marketing Budget?

- (A) Brand A
- (B) Brand B

(C) Brand C

(D) Brand D

Step 1 - Calculate the % cut for each branch:

Brand A = $75/300 \times 100\% = 25\%$

Brand B = $135/410 \times 100\% = 32.9\%$

Brand C = $85/260 \times 100\% = 32.7\%$

Brand D = $90/300 \times 100\% = 30\%$

Brand E = $115/365 \times 100\% = 31.5\%$

So the correct answer is (B), Brand B

Q73 Between 2010 and 2011 what has been the mean percentage Budget reduction for each of the 5 Brands (to 1 decimal place)?

(A) 30.4%

(B) 30.5%

(C) 31.4%

(D) 31.5%

Step 1 - Calculate the % cut for each Brand. If you still have your notes from the previous question you can re-use those to save time:

Brand A = $75/300 \times 100\% = 25\%$

Brand B = $135/410 \times 100\% = 32.9\%$

Brand C = $85/260 \times 100\% = 32.7\%$

Brand D = $90/300 \times 100\% = 30\%$

Brand E = $115/365 \times 100\% = 31.5\%$

Step 2 – calculate mean reduction.

$(25 + 32.9 + 32.7 + 30 + 31.5)/5 = 30.42\%$

Step 3 – calculate answer to 1 decimal place

30.4%

So the correct answer is (A), 30.4%

Q74 In 2012 Brand A and Brand D are to have their number of staff reduced by the same percentage reduction seen by their Marketing Budgets between 2010 and 2011. If the number of staff at Brand A was originally 120 and the number of staff at Brand D triple this, what are the new reduced staff numbers for each Brand?

(A) Can't tell from the data

(B) 35 (Brand A); 142 (Brand D)

(C) 90 (Brand A); 252 (Brand D)

(D) 60 (Brand A); 240 (Brand D)

Step 1 – calculate the percentage reduction in Marketing Budget for each Brand.

Brand A: $225 / 300 = 25\%$ reduction

Brand D: $210 / 300 = 30\%$ reduction

Step 2 – calculate the 2011 number of staff for Brand A

$120 \times 0.75 = 90$

Step 3 – calculate the 2011 number of staff for Brand D

$120 \times 3 \times 0.7 = 252$

So the correct answer is (C), 90 (Brand A); 252 (Brand D)

Q75 The total 2011 Marketing Budget for all five Brands is to be cut by a quarter in 2012. In £, what is the 2012 Marketing Budget? (to the nearest £100,000)?

(A) £3 million

(B) £3.1 million

(C) £5.2 million

(D) £7.1 million

Step 1 – calculate the 2012 marketing budget

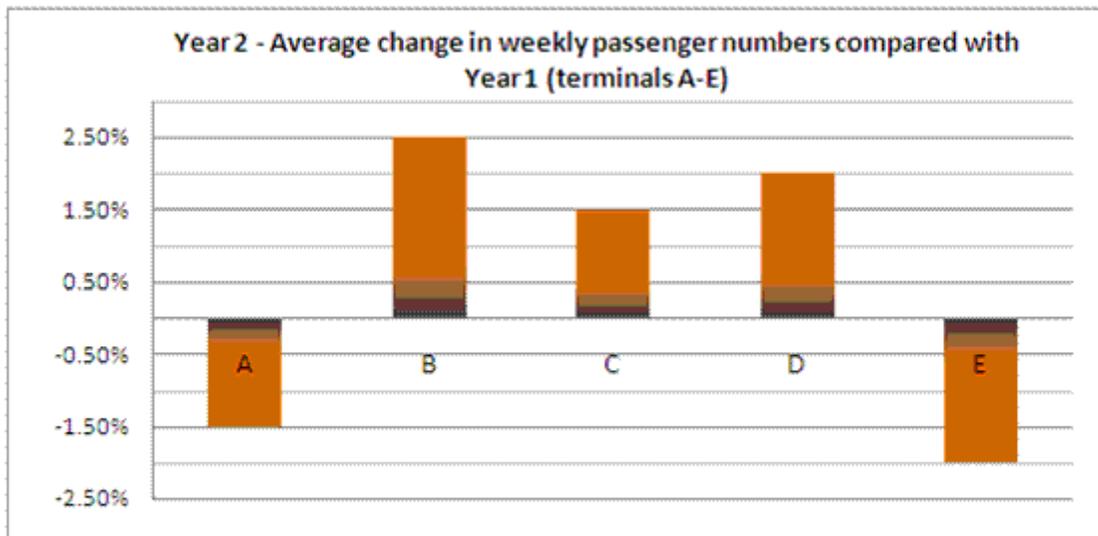
2011 marketing budget (from previous question) = 1135 (£10,000s)

2012 marketing budget = $€11.35 \text{ million} \times 75\% = €8.5125 \text{ million}$

Step 2 – convert into £

$8,512,500 / 1.2 = \text{£}7.094 \text{ million}$
 Step 3 – put answer into the nearest £100,000
 £7.1 million
So the correct answer is (D), £7.1 million

Year 1 - Average number of passengers per week (1,000s)					
All Terminals	A	B	C	D	E
Male passengers	52.9	66.6	62.9	77.1	78.8
Female passengers	52.7	66.5	63.1	76.9	78.5



Q76 Which terminal had the highest number of passengers per week in Year 2?

- (A) Terminal A
- (B) Terminal B
- (C) Terminal C
- (D) Terminal D

The information that you need is shown in both the table and the graph.

Step 1

Given Year 2's 1.5-2.5% increases in passenger numbers, save time by considering only which terminals have the highest number of passengers per week in Year 1. This is Terminal D and E.

Calculate Year 1's total passengers for Terminals D and E (by adding male and female passenger numbers):

Terminal D = $77.1 + 76.9 = 154$

Terminal E = $78.8 + 78.5 = 157.3$

Step 3 - calculate Year 2's totals for these Terminals:

Terminal D = $154 \times 102\% = 157.08$

Terminal E = $157.3 \times 98\% = 154.15$

So the correct answer is (D), Terminal D

Q77 For Year 1 what was the average weekly difference between male and female passengers per terminal?

(A) 2,200 more males

(B) 1,200 more males

(C) 220 more females

(D) 120 more males

The information that you need is shown in the table.

Step 1 – calculate the total difference between the weekly numbers of male and female passengers

$(52.9 - 52.7) + (66.6 - 66.5) + (62.9 - 63.1) + (77.1 - 76.9) + (78.8 - 78.5) = 0.6$

Step 2 – calculate the average difference

$= 0.6 / 5$ (1,000s)

$= 0.12$ (1,000s)

$= 120$ more male passengers

So the correct answer is (D) 120 more males

Q78 Terminals A and D serve domestic flights, whilst Terminals B, C and E serve international flights. Each week on average how many more passengers in Year 1 took international flights compared to domestic flights (to the nearest 10,000)?

(A) 14,000

(B) 15,000

(C) 140,000

(D) 160,000

The information that you need is shown in the table.

Step 1 – calculate the total numbers of domestic flights and international flights

Domestic flight total = $52.9 + 52.7 + 77.1 + 76.9 = 259.6$

International flight total = $66.6 + 66.5 + 62.9 + 63.1 + 78.8 + 78.5 = 416.4$

Step 2 – calculate the difference

$416.4 - 259.6 = 156.8$ (1,000's)

$= 156,800$

Step 3 - to the nearest 10,000

160,000

So the correct answer is (D), 160,000

Q79 In Year 2 each passenger spends on average £4.25 in Terminal C's shops. How much is the average weekly revenue for Terminal C's shops in Year 2 (to the nearest £10,000)?

(A) £4,400,000

(B) £540,000

(C) £54,000

(D) £46,000

Step 1 – calculate Year 2 passenger total for Terminal C

$(62.9 + 63.1) \times 101.5\% = 127.89$

In 1,000's = 127,890

Step 2 – calculate the average weekly revenue generated

$127,890 \times £4.25 = £543,532.5$ (£540,000 to the nearest £10,000)

So the correct answer is (B), £540,000

Q80 A competitor airport operator called Vefy Flights operates a different airport with half the average Year 1 weekly number of passengers operating from 3 terminals. What is Vefy Flights's average weekly number of passengers per terminal (to the nearest 1,000)?

(A) 110,000

(B) 113,000

(C) 133,000

(D) 142,000

Step 1 – calculate the total number of Terminal A-E passengers.

Total number of Terminal A-E passengers = 676.

Step 2 - calculate Vefy Flights's average weekly number of passengers

$676 \times 0.5 = 338$

Step 3 – calculate Vefy Flights's average weekly number of passengers per terminal

$338 / 3 = 112.667$ (1,000's)

= 112,667

= 113,000 (to the nearest 1,000)

So the correct answer is (B), 113,000