



| Ei ASSET TALENT SEARCH

Sample Questions

English • Mathematics • Science

Classes 4 to 8 | Four questions per subject

FOR EXPOSURE ONLY

**No preparation is required
for Ei ASSET Talent Search.**

These questions are just for exposure. Children do not need to study, practise or attend coaching for the test.

CHOOSE YOUR CLASS

CLASS

4

Pages 2–4

CLASS

5

Pages 5–7

CLASS

6

Pages 8–10

CLASS

7

Pages 11–13

CLASS

8

Pages 14–16

Why two classes higher? Ei ATS is an above-level test: each paper is pitched about two classes above a child's current class, so the questions for each class are taken from the Ei ASSET paper two classes higher.

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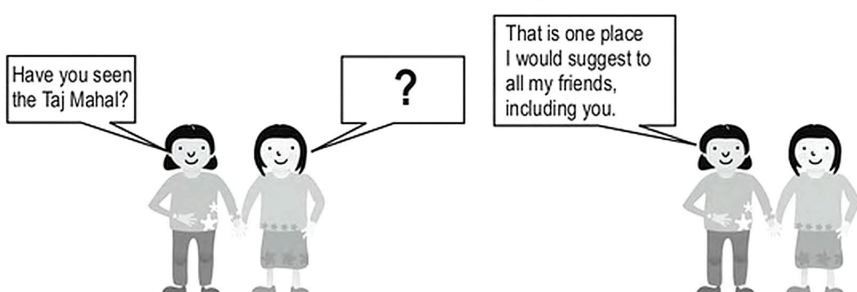


- 1 Sanitation has always been a worry during the monsoons. This is when we find that diseases are rampant as the number of people falling sick grows each day.

The word "rampant" MEANS "_____".

- A. spreading in an uncontrolled way
- B. resulting in other unrelated problems
- C. unsafe and causing a lot of problems
- D. undiscovered and difficult to detect easily

- 2 Choose the GRAMMATICALLY CORRECT RESPONSE that will fit the 2nd girl's speech bubble in the conversation below.



- A. Never seen.
- B. No, not yet.
- C. Yes, already.
- D. Of course yes.

Read "The Ratel and the Honeyguide" and answer questions 3 and 4.

The Ratel and the Honeyguide

The Ratel, or the honey badger is known as the bravest animal on Earth. It is as big as a dog but can fight even leopards and tigers! The colour of its fur scares the animals and birds around it.

It pokes into any hole that comes in its way and searches for snakes in it. Poisonous snakes like cobra, mamba, puff adders, etc., are its favourite food. It also hunts for turtles, frogs, fish, lizards and mongooses.

It has tough and thick fur. It is also very agile. It can turn around and bite even if its opponent catches it by the collar.

Let us now introduce ourselves to its little friend. A tiny bird called the honeyguide is a great friend of the brave ratel.

The honeyguide has a special ability to find beehives. It loves to eat the wax with which the bees make their hive, but it is afraid of the bee stings. This is where the honeyguide needs help. The brave ratel also loves to eat honey but cannot search for the bee hives. The honeyguide knows this.

When the honeyguide finds a ratel, it comes close to the ratel and chirps. It fans its tail excitedly, showing its white feathers. The ratel notices this and begins to follow the honeyguide with a grunting and growling sound. The bird hops from tree to tree till it comes near the hive. Then she waits for the badger to reach the hive. The ratel breaks the hive apart with its strong claws. Its thick fur protects it from bee stings. It eats all the honey and leaves the wax for the honeyguide!



Source (adapted): "Honeyguides?" - <http://coglab.hbsec.tifr.res.in/teacher-resources/multimedia-resources/symbiosis/honey-guide-and-the-ratel>

- 3 What makes the ratel a special animal?

- A. its courage to fight large wild animals
- B. its willingness to help all animals
- C. the number of colours on its fur
- D. the amount of food it can eat

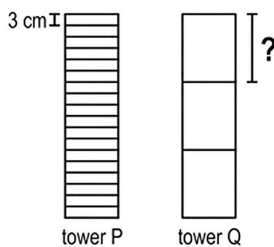
- 4 Based on the information in the passage, the honeyguide can be BEST described as being _____.

- A. hardworking
- B. generous
- C. fearless
- D. clever

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- 1 Raghu makes tower P with 18 identical blocks of height 3 cm each. He then makes tower Q of the same height, but with 3 identical blocks as shown.



Which of these is the height of the block used to make tower Q?

- A. 3
B. 6
C. 18
D. (cannot be determined from the given information)

- 2 Shown here is a triangle. Each side of the triangle is 1 cm long.



4 such triangles are arranged to make a bigger triangle as shown below.



What is the perimeter of the bigger triangle?

- A. 3 cm
B. 4 cm
C. 6 cm
D. 12 cm

- 3 Answer the question based on the below table.

The table shows the departure time of different buses from Bengaluru bus stand to different destinations.

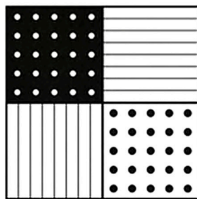
Destination	Departure times			
Chennai	21:00	21:50	22:00	22:15
Ernakulam	15:00	18:00	19:15	20:00
Mangalore	07:45	21:15	22:20	23:15
Ooty	09:15	10:00	22:00	22:15

Geeta reaches Bengaluru bus stand at 6:20 PM. She wants to take the next bus to Ernakulam.

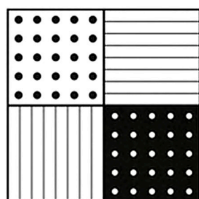
How long would she have to wait at the bus stand?

- A. 40 minutes
B. 55 minutes
C. 1 hour 15 minutes
D. 2 hour 55 minutes

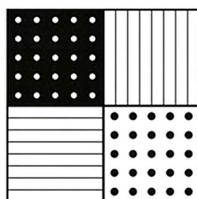
- 4 Look at the tile shown below.



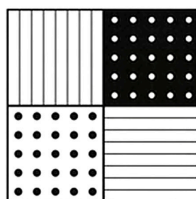
Which of the following is the same tile as the one shown above?



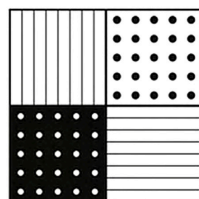
A



B



C



D

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1 Three gases found in the Earth's atmosphere are carbon dioxide, nitrogen and oxygen. What is their order of abundance from greatest to least?

- A. nitrogen, oxygen, carbon dioxide
- B. nitrogen, carbon dioxide, oxygen
- C. oxygen, nitrogen, carbon dioxide
- D. carbon dioxide, oxygen, nitrogen

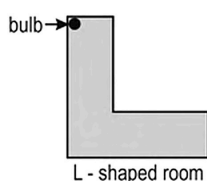
2 Shashank saw a picture of a bowl in a book (shown here).

Which of the following can Shashank definitely say about THE bowl ONLY by looking at the picture?

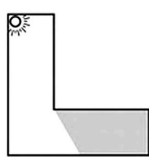


- A. It is curved.
- B. It is light in weight.
- C. It is made of glass.
- D. It can only be used to keep fish.

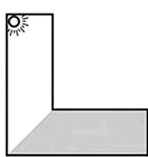
3 Shown here is an L-shaped room. There is one bulb kept in the room as shown here.



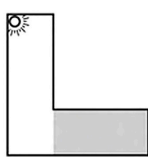
Which of the following correctly shows the parts of the room that will be BRIGHTLY lit when the bulb is switched on?



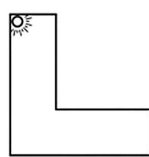
A



B



C



D

4 A ball is floating in a vessel of water (as shown in the picture).



Where will the ball be if it is put in a deeper vessel with more water in it?



A



B



C



D

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1

"Ah, William, we're weary of weather," said the sunflowers, shining with dew. "Our traveling habits have tired us. Can you give us a room with a view?"

Which of these **OPTIONS** is highlighted in the lines given above?

A. Personification (giving human qualities to non-human objects)

B. Simile (comparison between two different things using words such as 'like' or 'as')

C. Metaphor (comparison of two dissimilar things without using words such as 'like' or 'as')

D. Alliteration (repetition of the same letter or sound at the beginning of words in a sentence)

2

An excerpt from Kung Fu Panda:

Tai Lung: You can't defeat me! You're just a big fat panda!

Po (strikes back): I am not a big, fat panda, I'm **THE** big, fat panda!

Which word **BEST DESCRIBES** how Po reacted to Tai Lung's attack?

A. sternly

B. impatiently

C. rudely

D. proudly

Asish lives with his parents in their own house. He is very keen on having a pet at home. But he needs to convince his parents on why he wants to own a pet. So, he has taken information from the passage below and presented it in a web diagram. Help him complete it by filling in the gaps in the diagram for questions 3 and 4.

Choosing the Right Pet for You

If you are thinking about adding a pet to your family, it's best to learn about the needs of different types of pets to find the one that will best suit your lifestyle. Each type of pet is different in terms of care, feeding, behaviour, cost, housing and demands on your time.

If you know what you're getting into, you're more likely to have a happy animal. Here are some questions to ask yourself as you consider what type of pet to get:

- What type of animal is the best fit for your home? Will you be able to live with pet hair, a litter box or the occasional wear and tear caused by pets?
- If you have children, how will having a pet affect them? Will everyone in your home welcome an animal?
- If you rent, do you have permission from the property owner?
- How much space do you have inside and outside your home? Will you need a fenced yard?
- How much time do you have to spend with a pet? Do you have time to spare for buying pet food and supplies, or for giving medical care?
- What is your activity level? Are you sedentary or physically active?
- Do you have the financial resources for your pet's food and supplies and veterinary bills?
- Do you have someone who can be a secondary carer if you are away from home? If not, how will you provide care for your pet when you travel?

Source: 'Choosing the Right Pet for You' - <http://www.bestfriends.org/theanimals/pdfs/allpets/choosingapet.pdf> (adapted)

3

In (1), what would be the most **APPROPRIATE** heading?

A. Luxury

B. Pet Needs

C. Accessories

D. Medical Care

4

A pet shop has the following question in its questionnaire for prospective pet buyers: "Are you or any of your family members allergic to animals?"

Which question in the passage serves a similar purpose?

A. Question - I

B. Question - IV

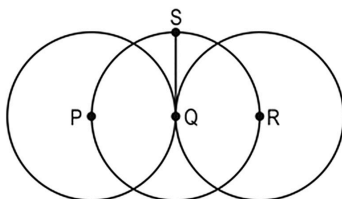
C. Question - V

D. Question - VIII

1 The product $22\frac{1}{2} \times 10$ lies between _____.

- A. 3 and 7
- B. 21 and 25
- C. 218 and 222
- D. 223 and 227

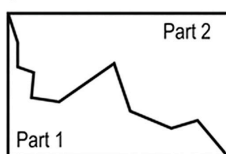
2 The figure below has three circles with centres P, Q and R respectively.



If $PR = 8$ cm, what is the length of QS ?

- A. 3 cm
- B. 4 cm
- C. 5 cm
- D. 6 cm

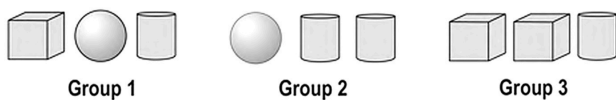
3 A rectangular window pane broke into two parts as shown below.



Which of these is TRUE about the perimeter of these two parts?

- A. The perimeters of both parts are the same.
- B. The perimeter of Part 1 is more than that of Part 2.
- C. The perimeter of Part 2 is more than that of Part 1.
- D. (We cannot compare the perimeters of the two parts without knowing the lengths of all the sides.)

4 Shown below are three groups made up of different objects. Group 1 is the lightest and Group 3 is the heaviest.



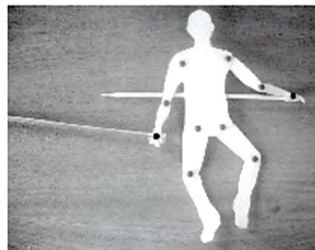
Which of these objects is the LIGHTEST?

- A. cube
- B. sphere
- C. cylinder
- D. (cannot say)

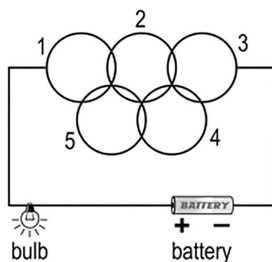
- 1 Rita made a new puppet using a wooden plank as shown here.

From the shadow alone, what aspect of the new puppet will the audience be able to find out?

- A. its colour
- B. its shape
- C. its texture
- D. its material



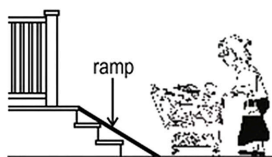
- 2 Adil arranges a circuit using five inter-connected rings as shown in the figure. The bulb glows in this arrangement.



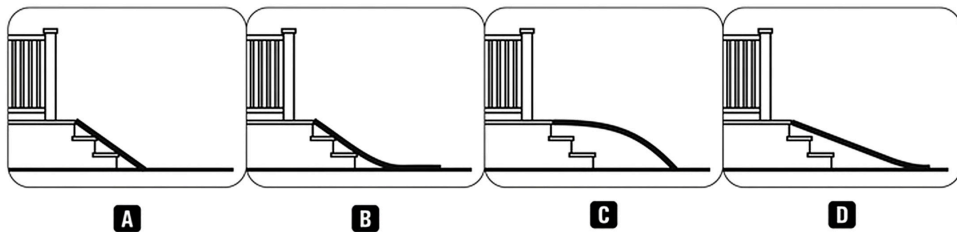
Which ring(s) should Adil remove from the arrangement to **STOP** the bulb glowing?

- A. only ring 2
- B. both rings 2 and 4
- C. both rings 4 and 5
- D. any one of these rings - 2, 4, or 5

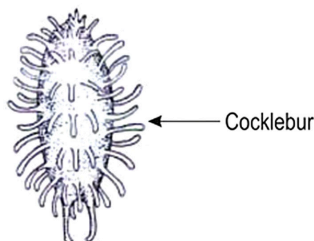
- 3 Suguna uses a ramp to push her groceries in a trolley from the street up the front stairs of the building.



Which of the following ramps would make it easier for Suguna to push her trolley up the stairs compared to the ramp shown above?



- 4 The given picture shows the seed of a plant called cocklebur. Choose the correct method by which this seed is dispersed.



- A. carried by water.
- B. carried by wind.
- C. carried on an animal's fur.
- D. eaten by an animal.

- 1 Choose the option that can REPLACE the underlined words in the sentence without changing its meaning.

If you do not abide by the rules of the institution, you may face suspension.

- A. plan
- B. follow
- C. believe
- D. dictate

- 2 Choose the CORRECT option that MATCHES the sentence given below.

He was known as a great playwright and as a great artist.

- A. He was not known only as a great playwright and as a great artist.
- B. He was not known as a great playwright but only as a great artist.
- C. He was known only as a great playwright and not as a great artist.
- D. He was not only known as a great playwright but also as a great artist.

Read "My Life as a Lump of Clay" and answer questions 3 and 4.

My Life As A Lump of Clay

1. It was just around the 15th century, when I was just a wet lump of clay in a potter's workshop in China. I had no idea what was going to happen to me. I just wished I could get out of that place, so I could join some of my friends. Well, finally my wish came true, but in a dizzy way.
2. First I was picked up by two coarse hands of an old Chinese man, who dropped me onto a table like a potter's wheel. Then I saw the man's foot pressing on a pedal and the table I was on, began to turn slowly. I was then moulded upwards and he dug out a hole in my bottom. That's when the table began to go even faster and I was getting so dizzy that I passed out and everything went black.
3. After that, I didn't know what happened, but when I eventually woke up I felt very hot. I looked around me and saw - fire! I must be in a kiln. I would have been in there for quite a long time as I was boiling hot. Then the door opened and the Chinese man put me on a bench and left me. I was cooling down a bit when that man came again probably to torture me for the fourth time, but I was wrong. He was actually just painting me which was nice. He finally finished painting me, then glazed me.
4. And I was finished.
5. I was taken to an old place and placed on a shelf for decoration. After a long time, I was put in a box in a dark cupboard. I fell asleep for a long time and when I woke up, I was where I am today - in an antique shop. I found out that I was a Ming vase made in the 15th century and I am now worth a million dollars.
6. How's that for a lump of clay?



By Rachel Cook

Source: 'My Life As A Lump Of Clay' - <http://www.assa.org.au/bulletin/mylifeas.pdf>

- 3 Which of these did the speaker PROBABLY enjoy the most?

- A. being worth a million dollars
- B. being given the finishing touches
- C. being moulded by the potter's hands
- D. being placed on a shelf in the antique shop

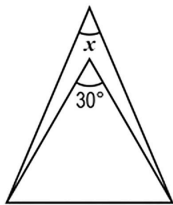
- 4 The MAIN IDEA in the FIFTH PARAGRAPH focuses on which of the following?

- A. desirability
- B. reflection
- C. realisation
- D. joyfulness

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- 1 The figure here shows two isosceles triangles on the same base.



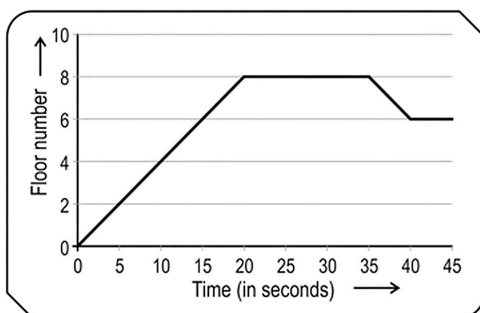
Which of the following is true regarding the angle marked x ?

- A. x is less than 30° .
- B. x is more than 30° .
- C. x is equal to 30° .
- D. (cannot say without knowing the measures of other angles in the larger triangle)

- 2 Which of the following statements is meaningless?

- A. There was a 3% decrease in the price of sugar.
- B. There was a 200% increase in the population of a town.
- C. There was a 120% decrease in the amount of water in a dam.
- D. There was 0% change in the temperature in the room after 1 hour.

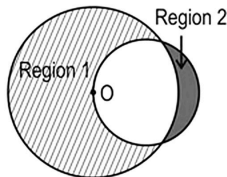
- 3 The graph below shows the motion of a lift.



Based on the above graph, which of these is true about the motion of the lift?

- A. It was in motion for a total of 25 seconds.
- B. It was stationary for 20 seconds at the 8th floor.
- C. It was stationary for 15 seconds at the ground floor.
- D. It took 10 seconds to come down to the 6th floor from the 8th floor.

- 4 Shown below is a circle with centre at O and a smaller circle which passes through O.



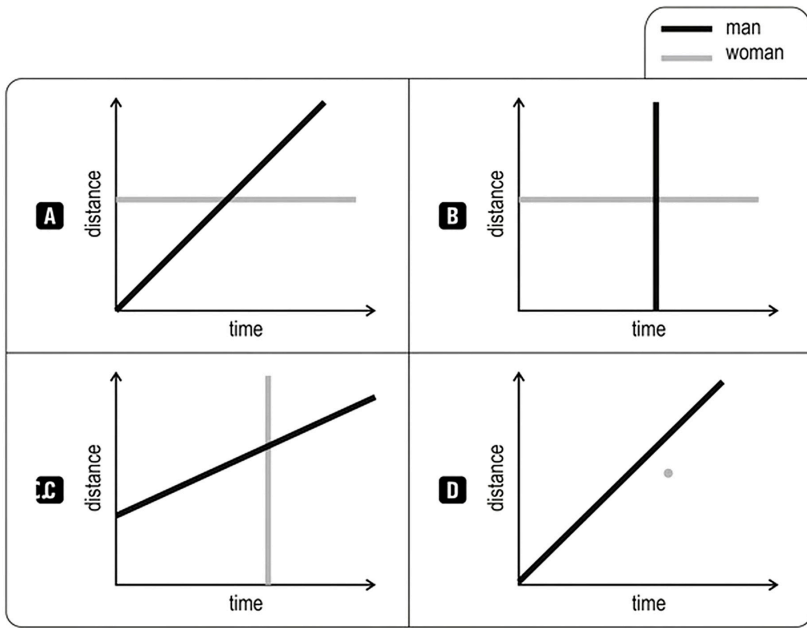
The radius of the larger circle is 15 cm and that of the smaller circle is 10 cm.

The area of Region 1 is 150π sq cm.

What is the area of Region 2?

- A. 25π sq cm
- B. 30π sq cm
- C. 50π sq cm
- D. 75π sq cm

- 1 Which of the following may represent a man walking at a uniform speed and a woman standing at one point?



- 2 In cold weather, birds fluff up their feathers to keep themselves warm.



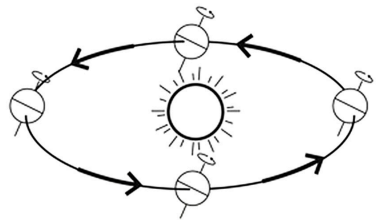
Snowy egret with feathers that are not fluffed

Snowy egret with fluffed feathers

Which of the following BEST explains how fluffing of feathers helps to keep the bird warm?

- A. Fluffed feathers increase the weight of the bird.
- B. Fluffed feathers cover more area of the bird's body.
- C. The air between fluffed feathers acts as an insulator.
- D. More heat from the air can be absorbed by fluffed feathers.

- 3 The diagram alongside shows the Earth's path around the Sun and the tilt of Earth's axis. Which of the following patterns on Earth is caused by the tilt of Earth's axis?



- A. seasons
- B. day and night
- C. years
- D. time zones

- 4 Three different substances P, Q and R are shown in three bottles.



Based only on what is seen, which of the following statements is DEFINITELY true?

- A. R is a gas.
- B. P is a solid.
- C. Q is a solid.
- D. P is a liquid.

Read "Q&A: Daniel Radcliffe" and answer questions 1 and 2.

Q&A: Daniel Radcliffe

Everyone's favourite wizard looks back on 10 years - November 22, 2010 by Vickie An, Times for Kids (TFK)

TFK: How does it feel now that you're done filming?

RADCLIFFE: Obviously, towards the end, it was very emotional. The first month away was very strange. But I've always said this about Harry Potter: once you're in, you're never really out. There is some sadness in leaving it, but I'm excited about the future.



TFK: Can you talk about Harry's emotional journey in 'Deathly Hallows'?

RADCLIFFE: Harry's faith in Dumbledore is being tested. Dumbledore has died leaving Harry with a mission and almost no information to work with. Ron and Hermione also gradually realise that Harry has no plan. They too lose faith in him leaving him more isolated and desperate.

TFK: Did you take any souvenirs from the set?

RADCLIFFE: I only wanted Harry's glasses. I didn't want the wand. I definitely didn't want the broom. I ended up getting two pairs of the glasses. Often the glasses I wear on set are lens-less, because there are camera reflections. So I've got one from the first film and one from the last. I'm very happy with them.

TFK: Looking back on the films, what would you redo?

RADCLIFFE: If I were young enough, I'd like to do the first two films again. I still find those very embarrassing to watch. But honestly speaking, I don't look back on the films too much, because I would probably say, "There's so much I want to change." I genuinely think you'll struggle to find an actor who is completely happy with what they've done.

TFK: If J.K. Rowling calls you tomorrow and says, "I'm writing another book," would you want to star in that movie?

RADCLIFFE: Probably not. Ten years is enough. I think the films have come to reach a rather perfect and wonderful conclusion

TFK: After 10 years, what do you walk away with as an actor and as a person?

RADCLIFFE: I will never be able to watch any of these films without immediately connecting it to the memory of that day on the set, or to what was happening in my life at the time. I walk away with a wealth of experience that many actors would kill for, in terms of the people I've worked with and learned from. I walk away, most importantly, with a love for the film and the most amazing group of friends anyone could wish for.

Source: 'Q&A: Daniel Radcliffe', - <http://www.timeforkids.com/news/qa-daniel-radcliffe/10721> (modified)

1 "Once you're in, you're never really out."

What does this particular statement of Radcliffe's indicate?

- A. There are so many people on set that you never really feel alone or like an outcast.
- B. Once you're in the shoes of the lead actor, people will never see you as anyone else.
- C. With so many memories attached to the movie, it's impossible to detach yourself from it.
- D. The director after having cast you as the lead actor, can't fire you till the end of the movie.

2 Radcliffe wore lens-less glasses on set because _____.

- A. his pair with lenses hurt his eyes if he wore them for long hours
- B. his lenses would often create reflections, which hampered the shoot
- C. his lenses broke while fighting and while performing magic with his wand
- D. his eyesight was good and so he was unhappy about wearing glasses

Read "Umpiring Technique Manual" and answer questions 3 and 4.

Umpiring Technique Manual

Good technique is the ability to cope with all aspects of the game. On the field of play, knowledge of the laws, their intentions and interpretations(1) must be applied to ever-changing situations. Regrettably(2), in the current world it is commonplace to question authority, and cricket umpiring has not been exempted(3) from this. A decision made during the first session of play may not evoke(4) the same emotional response from either the player or the umpire as one made late in the day when the match is in the balance. Theoretical(5) knowledge is one thing but making reasoned and consistent(6) decisions on split-second actions when under pressure is quite another.



NO-BALL



FOUR



OUT!



WIDE



SIXER!

Source: 'Umpiring Technique Manual' - http://www.umpires.tv/publications/080814Umpiring_Technique_Manual.pdf

3 In (1), "interpretations" means "_____".

- A. the origins of the different laws
- B. the words used to phrase the laws
- C. the hand signs used to apply a law
- D. the ways in which a law can be used

4 In (2), which word can REPLACE "Regrettably"?

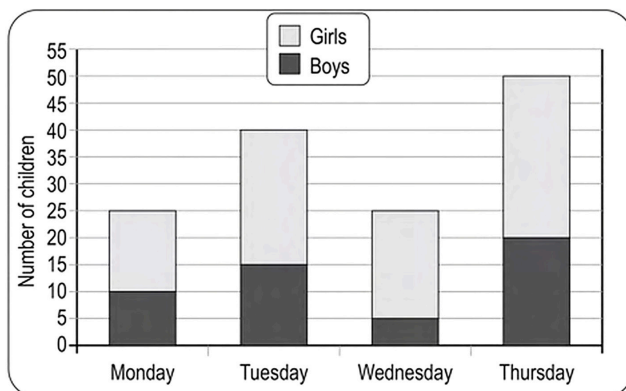
- A. Recently
- B. Similarly
- C. Unnaturally
- D. Unfortunately

- 1 p is a variable. Which of these values could $3p$ possibly take?

(i) 9 (ii) 7 (iii) 2 (iv) 11.75

- A. only (i)
 B. only (i) and (ii)
 C. only (i), (ii) and (iii)
 D. any - (i), (ii), (iii) or (iv)

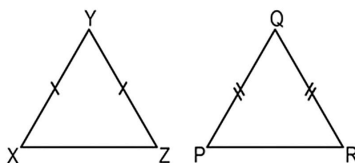
- 2 The graph below shows the number of boys and girls who visited a park on four days of a week.



On which two days is the percentage of girls in the park that day, the same?

- A. Monday and Tuesday
 B. Monday and Thursday
 C. Tuesday and Thursday
 D. Tuesday and Wednesday

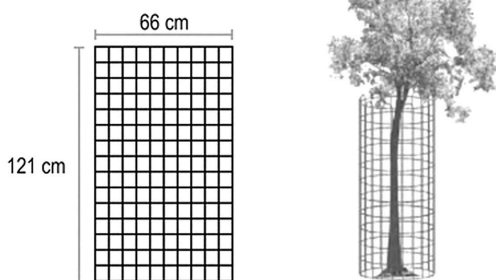
- 3 XYZ and PQR are two triangles such that $XY = YZ$ and $PQ = QR$.



Which of these would help conclude that $\triangle XYZ$ is congruent to $\triangle PQR$?

- A. $XY = XZ$ and $PQ = PR$
 B. $XY = PQ$ and $YZ = QR$
 C. $XY = PQ$ and $\angle XYZ = \angle PQR$
 D. $\angle XZY = \angle PRQ$ and $\angle XYZ = \angle PQR$

- 4 Shown below is a circle with centre at O and a smaller circle which passes through O.



The radius of the larger circle is 15 cm and that of the smaller circle is 10 cm.

The area of Region 1 is 150π sq cm.

What is the area of Region 2?

- A. 25π sq cm
 B. 30π sq cm
 C. 50π sq cm
 D. 75π sq cm

1 Nazim measures his weight by standing on the bathroom scale on both feet.

He then lifts one of his feet.

What do you think will happen to his weight now?

- A. It will increase.
- B. It will decrease.
- C. It will remain the same.
- D. We cannot say anything for sure without knowing his original weight.



2 Which of the following is the best representation of the structure of a synthetic fibre like nylon?

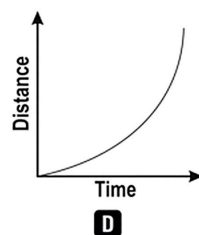
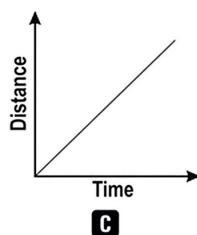
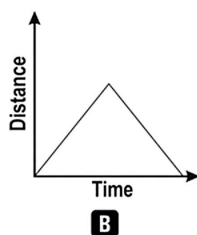
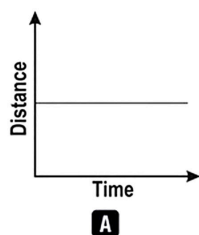
A (many different units linked together)

B (many identical units linked together)

C (many units linked to a central unit)

D (a collection of unlinked identical units)

3 The figure here shows the position of a runner at one-second intervals as he moves from left to right. Which of the following graphs will BEST represent the motion of the runner in figure?



4 Which of these maps is better to use if we want to get a rough estimate of how far Alaska (a state in north-western USA) is, from Japan?



- A. Map P is better.
- B. Map Q is better.
- C. Maps P and Q are equally good.
- D. Neither map P nor Q may be used.

The given passage has some blanks. Choose the correct word/phrase that should appear in the blanks, from the options given below.

Bakery Scores Surprise Hit With 'Edible iPhone'



Fans of Apple's iPhone can now travel to Japan to gobble up (1).

A small countryside bakery in western Japan (2) "iPhone cookie," a handmade chocolate biscuit decorated with colorful, edible application icons.

At first, the cookie was made just to meet a friend's request, (3) photographs of it made the rounds via the social networking site, Twitter.

Since then (4).

The hand-made iCookie doesn't come cheap, (5), where the waiting time to snap up (6) as long as two months.

Sources: 'Bakery Scores Surprise Hit With 'Edible iPhone' - <http://news.discovery.com/tech/bakery-scores-hit-with-edible-iphone.html>

Now choose the **CORRECT** phrases given below for the questions numbered 1 and 2 in the passage above.

- 1
- A. a tasty cookie modelled on the popular smartphone
 - B. a tasty cookie modelled over a popular smartphone
 - C. tasty cookie modelled across a popular smartphone
 - D. the tasty cookie modelled from the popular smartphone

- 2
- A. enjoys a surprise hit with it's
 - B. will enjoy a surprise hit with its'
 - C. has enjoyed a surprise hit with its
 - D. has been enjoying a surprise hit with it

Read "Here comes the science..." and answer questions 3 and 4.

Here comes the science...

The first and most important rule when buying a product is not to immediately be impressed by **scientific sounding words**. "These emollients are specially formulated with aqua and humectants" can be non-scientifically translated as "these lotions and creams contain water and moisturisers". Not nearly so exciting, but basically the same thing. (1)

It's actually possible to measure wrinkle depth using technology originally designed for ensuring race car tracks were smooth. Even a completely straightforward moisturiser, amazingly, with no special ingredients at all, can almost instantly make wrinkles less deep. It's not rocket science. As the moisture is absorbed by the skin, it puffs up, temporarily lessening the appearance of the lines. So an instant effect can be achieved from any decent moisturiser. (2)

Science suggests genes have as much to do with wrinkles as anything else. If your mum's laugh lines are deep, chances are yours eventually will be too. Also, the truth is, skin ages as we grow older, and nothing will absolutely get rid of wrinkles. But scientists say that you can slow down the inevitable ageing process. The anti-ageing product with the strongest scientific support is plain and simple sun cream. Sunlight creates nasty molecules called free radicals which damage the skin by attacking the collagen which keeps skin supple and youthful. And damaged collagen leads to wrinkles. (3)

So, for the moment, if you want to stay young and beautiful, avoid too much sun exposure. And if you think your moisturiser is helping keep away the wrinkles, just maybe it could be working a little more than skin deep. (4)

- Nicola Cook



- 3
- The author has used the term "scientific sounding words" to _____.
- A. to show that advertising agencies are scientific minded
 - B. to imply that advertising agencies choose words that attract customers
 - C. to explain the serious research behind the production of beauty products
 - D. to caution people against words that can mean different things in different contexts

- 4
- According to the passage, what is the reason for the instant wrinkle-reducing effect of even mediocre products?
- A. skin stretching when moisture enters the skin
 - B. skin increasing the production of cells rapidly
 - C. skin preventing cell growth due to moisturiser
 - D. skin removing the ageing cells by opening pores

Source (edited): 'Here comes the science...' - http://news.bbc.co.uk/2/hi/uk_news/magazine/6498421.stm

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- 1 Between which of the following pairs of numbers, can an irrational number be found?

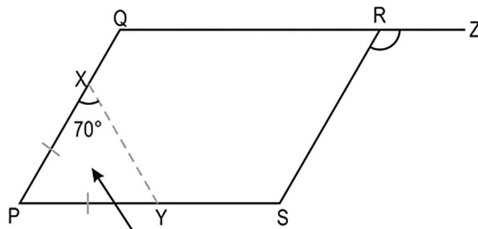
pair 1: 1 and 2

pair 2: $\sqrt{2}$ and $\sqrt{3}$

pair 3: $\sqrt{5}$ and $\sqrt{7}$

- A. only pair 3
B. only pairs 1 and 3
C. only pairs 2 and 3
D. all pairs 1, 2 and 3

- 2 Shown below is a parallelogram PQRS. $\triangle PXY$ is isosceles with $PX = PY$.

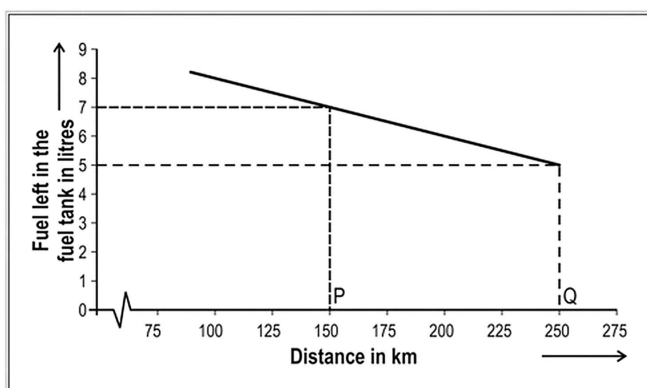


What is the measure of $\angle SRZ$?

PXY is an isosceles triangle

- A. 40°
B. 70°
C. 110°
D. 140°

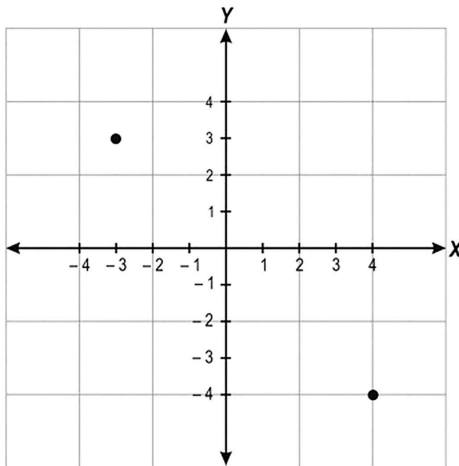
- 3 The graph below shows the amount of fuel left in the fuel tank as the distance travelled by a motorcycle changes.



Roughly how many litres of fuel are left in the fuel tank when the motorcycle has travelled a distance of 450 km? (Note: Assume that the rate of fuel consumption per km remains the same throughout.)

- A. 1 L
B. 2 L
C. 3 L
D. 4 L

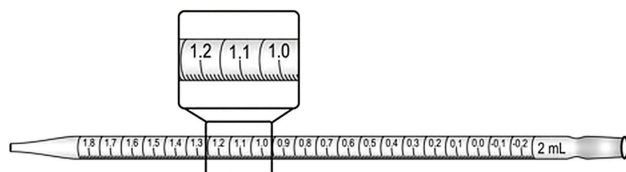
- 4 Two of the opposite vertices of a square have the coordinates $(4, -4)$ and $(-3, 3)$ respectively as shown on the grid below.



Which of the following are the coordinates of the OTHER two vertices of the square?

- A. $(-4, -3)$ and $(3, 4)$
B. $(-4, -3)$ and $(4, 3)$
C. $(-3, -4)$ and $(3, 4)$
D. $(-3, -4)$ and $(4, 3)$

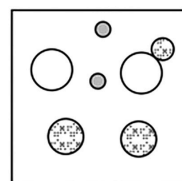
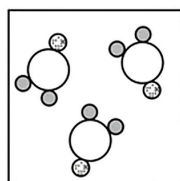
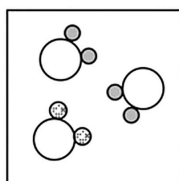
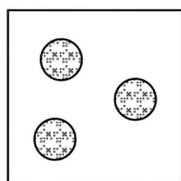
- 1 Shown here is a close-up of a part of a 2 mL pipette.



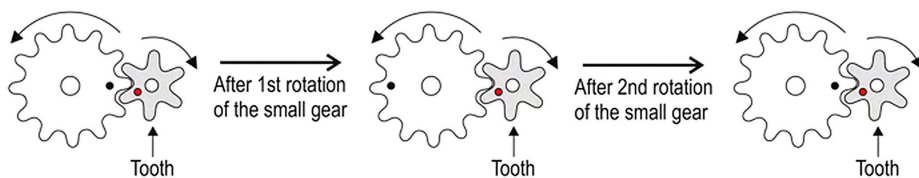
What is the **SMALLEST** volume that can be measured using this pipette?

- A. 0.001 mL
 B. 0.01 mL
 C. 0.02 mL
 D. 0.1 mL
- 2 Parthenocarpy is the term used to describe the development of fruits without the fusing of the male and the female gamete. Examples of such fruits are some varieties of grape and watermelon. Such fruits have no seeds in them and develop from _____.
- A. plants without flowers
 B. flowers without ovaries
 C. ovaries without fertilization
 D. anthers without fertilization

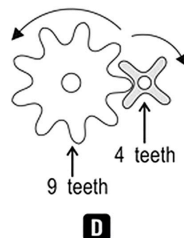
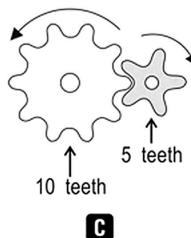
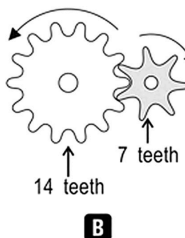
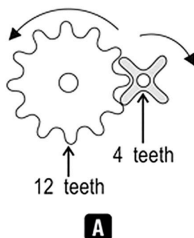
- 3 Substances are classified as elements, compounds and mixtures. Shown below are four substances. Each circle represents an atom. Which of them is a single **COMPOUND**?



- 4 Gears are used to change speed in rotational movement.



When two meshing gears are such that the **SAME** pair of teeth in both gears meshes every time, it causes more wear and tear damaging the gears. Which of the following pair of gears will minimise this problem and last longer?



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