

## TEST YOUR SKILLS – YEAR 8 & 9 FREE PREPARATION EXAM

### Sitting This Exam

Scholarship and entrance exams are specifically intended to identify the very top students. For this reason, they are designed to challenge students beyond their normal level of ability. Therefore, you should expect to find numerous questions very difficult. If you do not immediately understand a question and wish to return to it, you are encouraged to flag the question. This will enable you to later easily identify it. You are advised to use a pen and paper to assist you in working through questions wherever possible. **Where appropriate, students are also encouraged to use the strategies developed through Edworks Scholarship Preparation Programs.**



**Remember, you are given one minute for each question, so set yourself a time limit of 65 minutes. Aim to manage your time and keep an eye on your countdown clock.**

### Practice Exam: LOGIC AND VERBAL REASONING

#### Question 1

Complete the following sequence: 2, 4, 16, 256, \_\_\_\_\_.

#### Question 2

Complete the analogy: Ambulance is to bay as ship is to \_\_\_\_\_

**Select One Possible Answer:** 1). pier, 2). port, 3). dock, 4). Sea

#### Question 3

Answer either valid or invalid to the Syllogism: Dog owners love their pets. No one without a dog goes for a walk. Therefore, dog owners take their pets for walks.

**Select One Possible Answer:** 1). valid, 2). invalid

#### Question 4

Which word rhymes with 'bonafide'?

**Select One Possible Answer:** 1). stride, 2). tidy, 3). genocide, 4). Satisfied

#### Question 5

Using only the letters in the underlined word, make a word that completes the following sentence. Having abused an innocent bystander, the terse motorist did his best to \_\_\_\_\_ into the parking bay to the amazement of those around him.

#### Question 6

What is the quotient of 42 and six?

\_\_\_\_\_

#### Question 7

What is the product of 645 and 23?

\_\_\_\_\_

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**Question 8**

Choose the definition that best defines the proverb, 'Right wrongs no man.'

**Select One Possible Answer:** 1). If you are right, you cannot go wrong. 2). Men are always right or wrong. 3). In law, if you make a mistake, you can right your wrong. 4). The legal system is valuable and ensures justice, especially if you are innocent.

**Question 9**

Choose the most appropriate word to complete the following sentence: While enjoying her holiday break, Pallavi took her time to \_\_\_\_\_ many books.

Select One Possible Answer: 1). read 2). write, 3). peruse, 4). Buy

**Question 10**

Find the hidden name for a piece of manchester in the following sentence:

The students applauded to welcome the guest speaker.

\_\_\_\_\_

**Question 11**

Complete the sentence with a first person pronoun:

The football coach gave Sam and \_\_\_\_\_ a new ball for practice.

\_\_\_\_\_

**Question 12**

Write the letters to complete the word in the sentence:

The sauce was made to the exact con\_\_\_\_\_ the recipe required.

**Question 13**

Answer valid or invalid to the Syllogism. All schools have canteens. Lisa goes to school. Therefore, she buys her lunch from the canteen.

**Select One Possible Answer:** 1). valid, 2). invalid,

**Question 14**

Two years ago, Anna was a quarter of her brother's age. If next year Jonathon turns 19, how old will Anna be?

\_\_\_\_\_

**Question 15**

What two numbers have a sum of 18 and a product of 45?

\_\_\_\_\_

**Question 16**

In a zoo, the giraffes and pelicans have 96 legs between them. If there were a total of 30 animals, how many pelicans were there?

\_\_\_\_\_

**Question 17**

Choose the answer that best defines the following proverb;

'Law makers should not be law breakers'.

**Select One Possible Answer:**

- 1). Law makers break the rules and should not.
- 2). If you are going to break the law, ensure you do not make the law.
- 3). If you want to achieve something, you should set a good example for others to follow.

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**Question 18**

Complete the following sequence: 15, 24, 17, 26, 19, \_\_\_\_\_, 21

\_\_\_\_\_

**Question 19**

Complete the analogy: Finish is to cease as start is to \_\_\_\_\_.

**Select One Possible Answer:** 1). end, 2). commit, 3). complete, 4). Commence

**Question 20**

A bag of potting mixture is made up of 1 part gravel, 3 parts soil, 1 part fertiliser, 4 parts mulch with sand making up the remaining one part.

How much more mulch will you need than fertiliser, if you are making a 70kg delivery?

**Select One Possible Answer:** 1). 21 kg, 2). 9 kg, 3). 23 kg, 4). 19 kg

**Question 21**

Complete the analogy: Barge is to pull as lift up is to \_\_\_\_\_.

**Select One Possible Answer:** 1). remove down, 2). put down, 3). push down, 4). support up

**Question 22**

Which words can be made from the letters in the word, 'philanthropic', with each letter being used only once?

**Select All Possible Answer:** 1). picnic, 2). north, 3). catch, 4). latch, 5). panther

**Practice Exam: MATHS**

**Question 1**

If Tayla buys a jumper for \$88 after receiving a 20% discount, what was the original price?

\_\_\_\_\_

**Question 2**

In the Edworks Cup, a horse runs at 30 km per hour for 3 minutes and 30 seconds. Calculate the distance of the race in kilometres.

\_\_\_\_\_

**Question 3**

Express  $\frac{36}{90}$  as a percentage.

\_\_\_\_\_

**Question 4**

Share 30 into the ratio of 5:1. Which is the correct answer?

**Select One Possible Answer:** 1). 30, 5, 2). 25, 5, 3). 14, 16, 4). 15, 15

**Question 5**

"Dirty Dogs" dog wash charges \$25 per bath, per dog. With each subsequent visit, a 10% discount applies off the original price. How much would it cost per annum to have your dog washed, if you had it done monthly?

\_\_\_\_\_

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### Question 6

Simone is on a \$25 mobile phone plan. Each month she prepays \$25 for access and receives \$25 worth of free calls. Each call is charged at \$1.30 and each text message is 30 cents. How much would February's bill be, if she made 25 calls and sent 30 text messages?

**Select One Possible Answer:** 1). \$25.00, 2). \$41.50, 3). \$16.50, 4). \$43.00

### Question 7

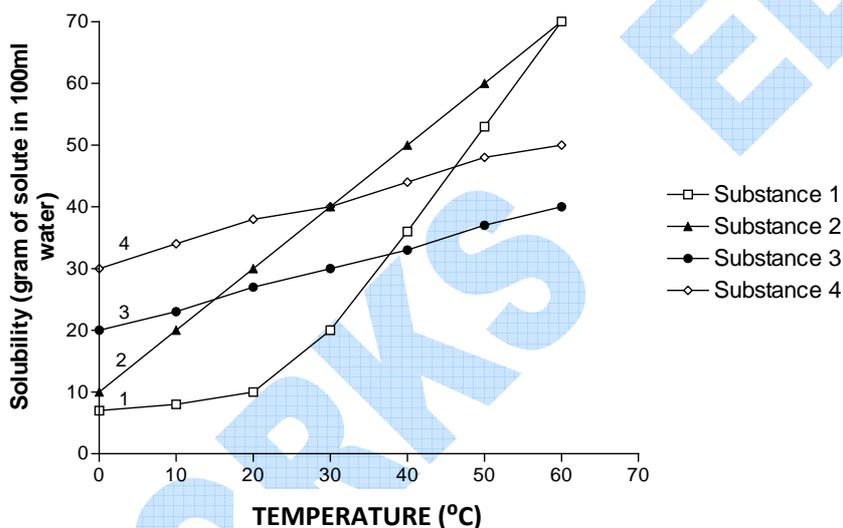
What is the value of **w** in the equation:  $6 \times 10 + 5 - 10 \times w + 10 = 25$

\_\_\_\_\_

**Additional Maths:** These questions contain graphs and tables. You may need to scan down below the question to view all of the Possible Answers.

### The next 3 questions refer to the following information:

The graph below shows the solubility levels of four different substances in water over a range of temperatures.



**CIRCLE THE CORRECT ANSWER.**

### Question 8

Which substance is most soluble at 10°C?

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

### Question 9

Which substance is least soluble at 50°C?

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

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**Question 10**

The solubility of substance 1 at 30°C is closest to?

- A 5                      C 15  
B 10                     D 20

**The next 2 questions refer to the following information:**

A male zebra finch wants to warn his mate that a predator is approaching. He uses a 'distance call' to warn of the approaching predator. He emits this call more frequently as the predator gets nearer, according to the formula:  $n = 2.2 D + 17$

Where:            n = number of calls per minute  
                      D = distance of predator in metres

**CIRCLE THE CORRECT ANSWER.**

**Question 11**

The number of times the male zebra finch would be expected to call per minute if the predator was 5 metres away would be?

- A. 2.2                    C. 17  
B. 28                    D. 22

**Question 12**

With every 10 metres the predator gets closer to the zebra finches, the number of distance calls the male emits per minute would increase by:

- A. 2.2                    C. 17  
B. 28                    D. 22

**The next question relates to the following information and table:**

It has been shown that earthworms do not feed when the temperature is below 2°C. It has also been found that earthworms feed mostly at night by pulling leaves into their burrows. To find out what encourages earthworms to feed, a piece of lawn was caged off and leaves were put inside the cage. The temperature of the soil was taken each night. Each morning the cage was examined to see how many leaves had been pulled down into the burrows.

The results from a week's worth of observations are shown in the following table:

Day	Night Temperature (°C)	Wet or Dry Night	Calm or Windy	Cloudy or Bright	No. of leaves taken
<b>Monday</b>	10	Wet	Windy	Cloudy	6
<b>Tuesday</b>	9	Dry	Calm	Bright	None
<b>Wednesday</b>	18	Dry	Windy	Cloudy	10
<b>Thursday</b>	9	Wet	Calm	Cloudy	3
<b>Friday</b>	15	Wet	Windy	Cloudy	10

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### Question 13

Choose the best response: Earthworms feed most:

- A. when the soil is warm and dry
- B. when the weather is cloudy and windy
- C. in the day time when the weather is dry
- D. earthworms do not feed in wet weather

**The next 3 questions refer to the following table:**

Meal	Item	Quantity	Energy (kJ)	Protein (g)	Fat (g)	Carbohydrate (g)	Calcium (mg)	Iron (mg)	Vitamin C (mg)
<b>Breakfast</b>	White Bread	90 g	950	7	2	50	90	1	0
	Butter	15 g	450	0	12	0	2	0	0
	Jam	30 g	330	0	0	19	5	0	1
	Black coffee	1 cup	20	0	0	1	4	0	0
<b>Lunch</b>	Hamburger	150 g	1560	30	15	30	50	4	0
	Ice cream	100 g	800	4	12	20	130	0	1
	Fizzy Drink	1 can	550	0	0	30	0	0	0
<b>Dinner</b>	Sausages	75 g	1,150	9	24	10	30	0.5	0
	Chips	200 g	2,100	8	20	70	25	2	20
	Baked beans	220 g	600	10	1	20	100	2.5	4
	Apple pie	150 g	1,800	5	25	60	60	1	1
	Cream	30 g	550	0.5	15	1	20	0	0
	Tea with milk	2 cups	200	2	4	6	100	0	0
<b>Snacks</b>	Chocolate	50 g	1,200	15	25	5	30	1	0
	Peanuts	50 g	1,200	15	25	5	30	1	0
<b>Total Daily</b>	Intake		13,460	95.5	175	347	766	13	27
Average Daily Requirement			9,400	58	*	*	600	14	30

\* = Amounts Variable

**CIRCLE THE CORRECT ANSWER.**

### Question 14

The recommended carbohydrate:fat ratio in a balanced diet is 5:1 by weight. Which individual meal in the day given in the table had a carbohydrate:fat ratio of exactly 5:1?

- A. Breakfast
- C. Dinner
- B. Lunch
- D. Snacks

### Question 15

Excluding tea, coffee and fizzy drinks, which of the items eaten during the day had the highest level of calcium per gram of food?

- A. White bread
- C. Ice-cream
- B. Apple pie
- D. Hamburger

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**Question 16**

One nutrient in which the day's food intake was deficient is?

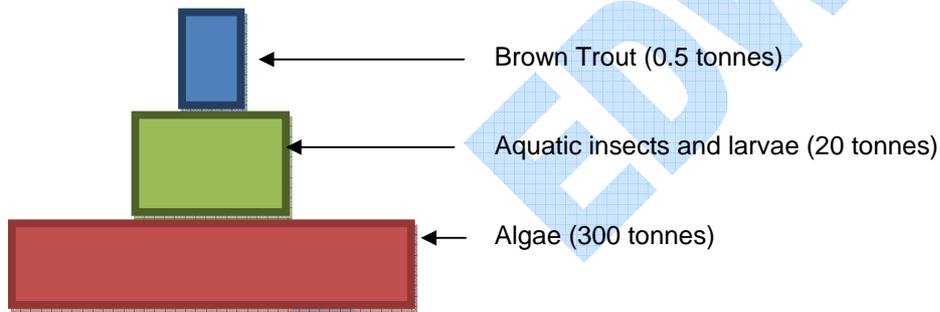
- A. Calcium                      C. Protein  
 B. Energy                        D. Vitamin C

**The next 3 questions refer to the following information:**

In diagrams of food webs, transfer of energy (energy flow) is indicated by the direction of arrows.

For example,    grass                      →    antelope  
                          antelope                      →    cheetah

The following information refers to a population of brown trout:



**DIET OF BROWN TROUT**

AGE	TIME OF YEAR	DIET
<b>FIRST 3 MONTHS</b>	-	Midge larvae and small may flies
<b>3 MONTHS TO 1 YEAR OLD (JUVENILE)</b>	-	May fly nymphs
<b>LATER YEARS (ADULT)</b>	Sept – Jan	Caddis fly larvae May fly nymphs Snails Black beetle adults
	Feb – Aug	Large caddis flies May fly nymphs Snails

**CIRCLE THE CORRECT ANSWER.**

**Question 17**

From this information a food chain might look like?

- A. Algae → Brown Trout → Larvae  
 B. Algae → Larvae → Brown Trout  
 C. Brown trout → Larvae → Algae  
 D. Brown trout → Algae → Larvae

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**Question 18**

One reason adult brown trout do not eat black beetles during the months February to August may be?

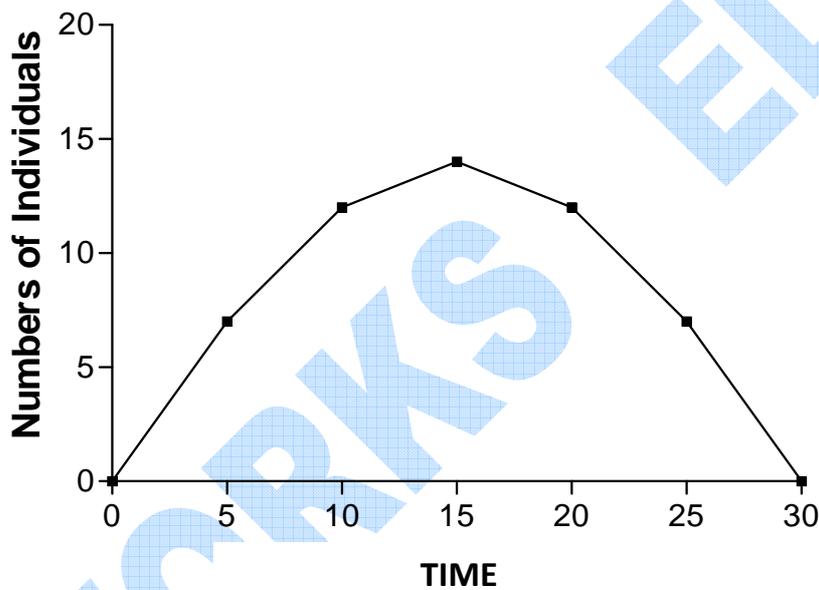
- A. Aren't any black beetles to eat
- B. Don't feel like eating black beetles
- C. Only eat black beetle adults, and at this time of year they are in larval stage
- D. Brown trout move and feed elsewhere during these months

**Question 19**

Why might the mass (in tonnes) of brown trout be 0.5 tonnes when their food source has a mass of 20 tonnes?

- A. Other animals also feed on the insects and larvae
- B. A lot of insects are inedible
- C. Some insects and larvae are poisonous and kill the trout that eat them
- D. Most of the insects and larvae die from pesticides.

**The next question refers to the following information:**



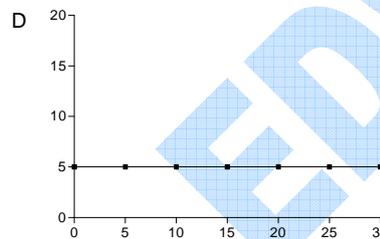
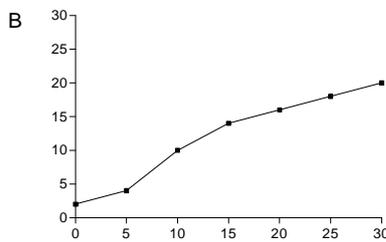
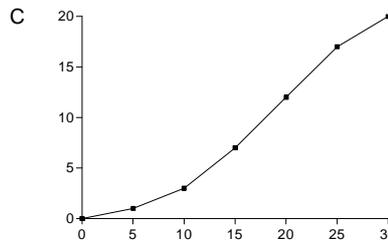
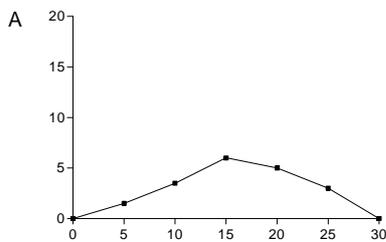
The above graph represents the growth pattern of a population of a green algae.

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**CIRCLE THE CORRECT ANSWER.**

**Question 20**

Which one of the diagrams below best represents the growth pattern of a population of a crustacean that depended on this population of algae for food?



**The next question refers to the following information:**

The table below shows the results of spraying four new pesticides onto sample areas of a particular crop which was later harvested and used as animal feed.

Pesticide (sprayed onto the crop)	Average loss of crop (kg/hectare/year)		Effect of spraying crop to pregnant cattle
	Without pesticide	With pesticide	
1	10,000	10,000	heavier calves develop
2	12,000	1,000	normal offspring produced
3	15,000	1,000	smaller calves develop
4	8,000	10,000	more offspring produced

**CIRCLE THE CORRECT ANSWER.**

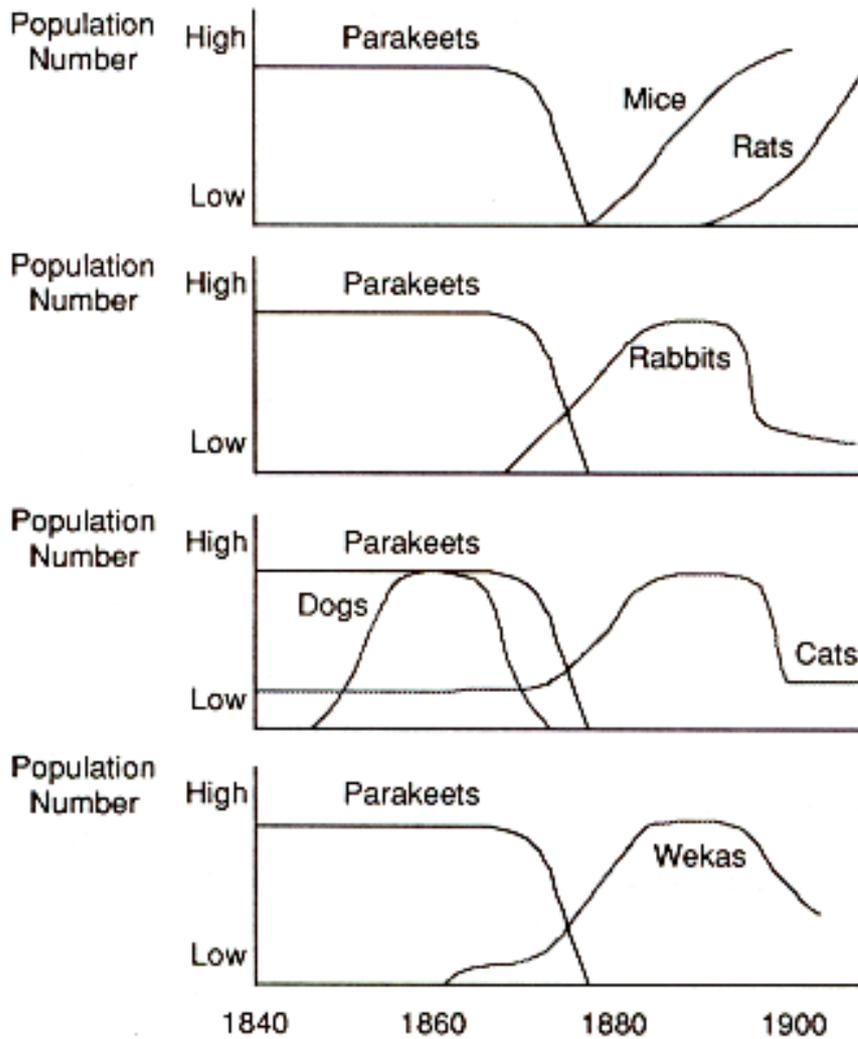
**Question 21**

Which pesticide is both safe and effective?

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

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The graphs below are a diagrammatic reconstruction from early accounts of the changes in numbers of parakeets and a number of introduced predators on Macquarie Island between 1840 and 1900.



**CIRCLE THE CORRECT ANSWER.**

**Question 22**

The predators which are most likely to have caused the extinction of parakeets are:

- A. mice and rats
- B. cats and dogs
- C. cats and wekas
- D. rabbits and dogs

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**The next 3 questions refer to the following information:**

A student wanted to see how different environmental conditions affected transpiration rates in plants (loss of water vapour/gas from plant surfaces). She conducted an experiment where she measured the amount of air bubbles produced (and hence water vapour) every 5 minutes with the plant under various treatment conditions. She obtained the following results.

Time (minutes)	No treatment (water lost ml)	Vaseline smeared under leaf (water lost ml)	Sunny, windy (water lost ml)	Shaded, humid (water lost ml)
0-5	0.00-0.13	0.00-0.04	0.00-0.23	0.00-0.08
5-10	0.13-0.25	0.04-0.09	0.23-0.45	0.08-0.16
10-15	0.25-0.39	0.09-0.15	0.45-0.68	0.16-0.25

**Question 23**

Under which conditions did the plant lose most water overall?

- A. No treatment
- B. Vaseline treatment
- C. Sunny, windy treatment
- D. Shaded, humid treatment

**Question 24**

Under which conditions did the plant lose the least amount of water overall?

- A. No treatment
- B. Vaseline treatment
- C. Sunny, windy treatment
- D. Shaded, humid treatment

**Question 25**

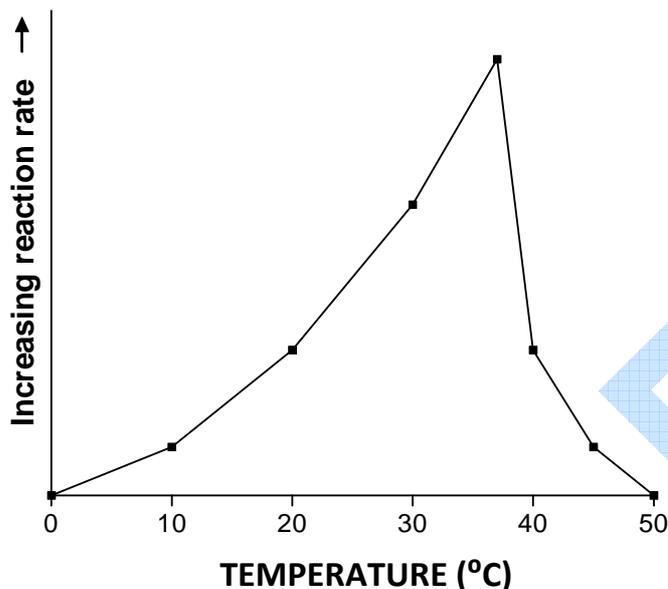
Why did the Vaseline treatment prevent water from being lost?

- A. Because the Vaseline killed the plant
- B. Because the plant absorbed the Vaseline
- C. Because no sun and wind were present
- D. Because the Vaseline closed up the pores on the plants surface

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The next 2 questions refer to the following information:

The graph below shows the reaction rate of a particular enzyme at different temperatures. Enzymes are biological substances that help the body to perform everyday functions such as digesting food. The reaction rate of enzymes peaks at certain temperatures.



**CIRCLE THE CORRECT ANSWER.**

**Question 26**

What is the approximate optimum temperature for the enzyme?

- A. 15°C      C. 40°C  
B. 37°C      D. 10°C

**Question 27**

If you were then told that this enzyme was found in man, what evidence on the graph supports this?

- A. Human body temperature is 37°C and the enzyme performs optimally at this temperature.  
B. When body temperature heats up it destroys enzymes, which is why at 40°C the enzyme stops working.  
C. When people get cold they slow down and so do their enzymes.  
D. No information on the graph supports this statement because humans don't have enzymes.

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**Practice Exam: COMPREHENSION**

The next 13 questions (1-13) relate to the poem below:

**LADY FEEDING THE CATS**

Shuffling along in her broken shoes from the slums,  
A blue-eyed lady showing the weather's stain,  
Her long dress green and black like a pine in the rain,  
Her bonnet much bedraggled, daily she comes  
Uphill past the Moreton Bays and the smoky gums  
With a sack of bones on her back and a song in her brain  
To feed those outlaws prowling about the Domain,  
Those furtive she-cats and those villainous toms.

Proudly they step to meet her, they march together  
With an arching of backs and a waving of plummy tails  
And smiles that swear they never would harm a feather.  
They rub at her legs for the bounty that never fails,  
They think she is a princess out of a tower  
And so she is, she is trembling with love and power

Meat, it is true, is meat, and demands attention,  
But this is the sweetest moment that they know  
Whose courtship even is a hiss, a howl and a blow.  
At so much kindness passing their comprehension –  
Beggars and rogues who never deserved this pension –  
Some recollections of old punctilio  
Dawns in their eyes, and as she moves to go  
They turn their battered heads in condescension.

She smiles and walks back lightly to the slums.  
If she has fed their bodies, they have fed  
More than the body in her; they purr like drums,  
Their tails are banners and fountains inside her head.  
The times are hard for exiled aristocrats,  
But gracious and sweet it is to be queen of the cats.

**Question 1**

The old woman's complexion is described as:

**Select One Possible Answer:**

- 1). pale
- 2). ruddy
- 3). tanned and well worn
- 4). flushed

**Question 2**

The cats are referred to as, 'outlaws'. What other terms used support this view?

**Select One Possible Answer:**

- 1). exiled aristocrats
- 2). furtive she-cats
- 3). villainous toms
- 4). beggars and rogues

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**Question 3a**

Did the cats appreciate the woman's kindness?

**Select One Possible Answer:**

- 1). yes
- 2). no
- 3). not enough information

**Question 3b**

Support your answer to the previous question with one of the following extracts:

**Select One Possible Answer:**

- 1). 'with arching backs'
- 2). 'passing their comprehension'
- 3). 'proudly they step to meet her'

**Question 4**

Write the line from the poem that best reflects how the cats see the old woman.

---

**Question 5**

Why did the poet suggest this?

**Select One Possible Answer:**

- 1). They don't see her for what she is, but who she is.
- 2). Her excitement conveys the happiness of someone who has escaped.
- 3). She conveys goodwill.
- 4). She has riches they desire.

**Question 6**

The meaning of the word, 'condescension', in this passage is:

**Select One Possible Answer:**

- 1). relief
- 2). arrogance
- 3). gratefulness
- 4). contentment

**Question 7**

The term, 'she walks back lightly', suggests that the woman felt:

**Select One Possible Answer:**

- 1). relieved
- 2). depressed
- 3). grateful
- 4). Elated

**Question 8**

How do the cats greet the old woman?

**Select One Possible Answer:**

- 1). with relief
- 2). dejectedly
- 3). enthusiastically
- 4). Passively

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**Question 9**

What is meant by, 'they have fed more than the body in her'?

**Select One Possible Answer:**

- 1). The old lady is full.
- 2). The cats give her love.
- 3). The cats give her a purpose in life.
- 4). The cats satisfy a purpose.

**Question 10a**

In what era did the poem take place?

**Select One Possible Answer:**

- 1). 1950s
- 2). 1890s
- 3). 1920s
- 4). 1750s

**Question 10b**

Support your answer to question 10a.

---

**Question 11**

Why is the old lady referred to as having love and power?

**Select One Possible Answer:**

- 1). That she can love the cats. But if they misbehave, she can scold them.
- 2). That she has love and enjoys the fact that she can create so much interest for herself through the cats.
- 3). That she can love the cats, but if they misbehave she can return to her 'tower'.
- 4). The cats level of affection gives her power over them.

**Question 12**

Write the line that suggests that it is the woman who benefits most from her daily encounter with the cats?

---

**Question 13**

The poet refers to the cats as 'beggars and rogues'. What phrase suggests a more sympathetic view of the cats?

**Select One Possible Answer:**

- 1). 'old punctilio'
- 2). 'exiled aristocrats'
- 3). 'villainous toms'
- 4). 'queen of the cats'