NUMERICAL REASONING

PRACTICE TEST

Practice Example 1
Find the missing number in the following series:

2   4   6   8   ?

A: 9   **B**: 10   **C**: 11   **D**: 12   **E**: None of these

Practice Example 2
The numbers in the grid go together in a certain way.
Which number should be in the square marked by the question mark?

?	4	6
4	6	8
6	8	10

A: 2   **B**: 3   **C**: 5   **D**: 16   **E**: None of these

Practice Example 3

Sam has four tickets in his hand. He gives one to each of his friends Max and Judy.

How many tickets is Sam left holding?

A: 4   **B**: 3   **C**: 1   **D**: 0   **E**: None of these

When you are told to begin you will have **30 minutes** to do as many questions as you can. If you don't know the answer to a question, make a guess or come back to it later. You don't lose marks if you get something wrong. It may be difficult to finish all the questions in the time allowed, so don't spend too long on any one question. Try to answer as many questions as you can. If you change your mind about an answer, please erase your original answer using an eraser and colour your new answer in on the answer sheet.

Question 1
Find the missing number in the following series:

234567	23456	?	234	23
A: 6	**B**: 2356	**C**: 2347	**D**: 2345	**E**: None of these

Question 2
The numbers in the grid go together in a certain way.
Which number should be in the square marked by the question mark?

14	16	18
16	18	20
18	20	**?**

A: 21   **B**: 22   **C**: 24   **D**: 26   **E**: None of these

Question 3
One container has 28 kilograms of flour and another has 4 kilograms.
How many kilograms must be taken from one container, so each has an equal amount of flour?

A: 4   **B**: 12   **C**: 16   **D**: 24   **E**: None of these

Question 4
The numbers and letters in the grid form a pattern and one of the lines has been erased.
Which number or letter should be in the square marked by the question mark?

2	A	4	A	6	A
C	B	4	B	6	B
4	4	4	C	6	C
		?			
6	6	6	6	6	E
K	J	I	H	G	F

A: D   **B**: F   **C**: 5   **D**: E   **E**: None of these

Question 5
Six pairs of shoes cost as much as 1 coat, 2 pairs of jeans cost as much as 3 pairs of shoes, and 4 pairs of socks cost as much as one pair of jeans. How many coats could I exchange for 64 pairs of socks?

A: 4   **B**: 1   **C**: 2   **D**: 3   **E**: None of these

Question 6
The numbers in the circles go together in a certain way.
Find the missing number marked by the question mark:

169, 13   49, 7   144, ?   81, 9

A: 12   **B**: 13   **C**: 11   **D**: 15   **E**: None of these

Question 7

The clock in my lounge room is 10 minutes slower than the clock on my phone, which is 6 minutes slow. My tram always leaves 6 minutes early, although it is scheduled for 8:55am. It takes me 20 minutes to get to the tram stop.

What time must I leave, according to my lounge room clock, in order to catch my tram?

A: 8:49am   **B**: 8.35am   **C**: 8.23am   **D**: 8.29am   **E**: None of these

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Question 8

A container of soft drink was shared between four work teams of employees. The first team took 1/3 of the soft drink, the second team took ½ of what was left, and the remaining two teams shared the remaining soft drink equally between them. If there were originally 240 litres of soft drink, how many litres of soft drink did the third team get?

A: 20   **B**: 40   **C**: 80   **D**: 160   **E**: None of these

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Question 9

Working mothers who earn $30,000 or less per year receive a rebate on before and after school care of 75%, plus a school bonus of $6,000 that only applies to this category of earnings. Each dollar earned above this amount and up to $40,000 reduces the rebate to 55%, and for any amount above this, the rebate drops to 30%. There are three mothers – Jade earns $40,001, Emily earns $38,000 and Lucy earns $29,550. If the cost of before and after school care is $10,000 per year, what amount of money does the person have who has the least amount of money left after paying for before and after school care?

A: $33,000   **B**: $30,000   **C**: $40,001   **D**: $40,000   **E**: None of these

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Question 10

Find the missing number in the following series:

4   8   ?   32   64   128

A: 24   **B**: 19   **C**: 16   **D**: 8   **E**: None of these

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Question 11

Find the missing number in the following series:

?   85   81   83   79   81   77

A: 89   **B**: 83   **C**: 87   **D**: 80   **E**: None of these

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Question 12

The numbers in the grid go together in a certain way.
Which number should be in the square marked by the question mark?

35	30	27
31	26	23
28	23	?

A: 19   **B**: 20   **C**: 21   **D**: 18   **E**: None of these

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Question 13

Percy rides his scooter to the station, which is 10 kilometres away. If Percy rides at a steady pace of 20 kilometres per hour, how many minutes will it take him to ride from home to the station?

A: 2   **B**: 4   **C**: 40   **D**: 30   **E**: None of these

Question 14
If Bert had 3 cents more he would have twice as much as Georgia. If he had 4 cents less, he would have the same amount.
How many cents does Bert have?

A: 4   **B**: 7   **C**: 11   **D**: 14   **E**: None of these

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The following story relates to the next two questions.
Arthur, Ronald and Dianne each have a pile of socks. Mr Sockman's sock collection is worth half the value of Ronald's sock collection plus one white sock, one grey sock and one black sock.

3 X black socks	8 X black socks	4 X black socks
2 X white socks	1 X white socks	1 X white socks
1 X grey sock		3 X grey socks

    Arthur's Socks   *Ronald's Socks*   *Dianne's Socks*

Black socks fetch one quarter of the price of white ones at auction, whilst greys fetch half.

Question 15
Who has the least variety of socks in their collection?

    A: Ronald   **B**: Arthur   **C**: Dianne   **D**: Mr Sockman   **E**: None of these

Question 16
Who would get the most money for their sock collection at auction?

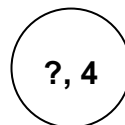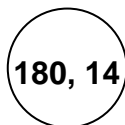   **A**: Ronald   **B**: Arthur   **C**: Dianne   **D**: Mr Sockman   **E**: None of these

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Question 17
The numbers in the circles go together in a certain way.
Find the missing number marked by the question mark:

    (180, 14)   (120, 8)   (?, 4)   (220, 18)

    A: 70   **B**: 80   **C**: 60   **D**: 40   **E**: None of these

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Question 18
The numbers in the grid go together in a certain way. One of the squares has a * placed in it, to hide the number underneath.
Which number should be in the square marked by the question mark?

32	26	22
27	?	17
22	16	*

    A: 21   **B**: 14   **C**: 20   **D**: 10   **E**: None of these

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Question 19
There are 72 apples on my tree at home; 38 are red, and the rest are green. I know 46 of the apples have worms in them, so I can't use them for cooking.

What is the maximum number of green apples I could have left to cook with?

A: 0	**B**: 8	**C**: 12	**D**: 26	**E**: None of these

Question 20
Rebecca must give 5 out of every 6 dollars she earns each week to the tax department. If Rebecca gets to keep $10 this week, how much did she earn in total this week?

A: $30	**B**: $56	**C**: $50	**D**: $60	**E**: None of these

Question 21
Find the missing number in the following series:

$$64 \quad 16 \quad 32 \quad 8 \quad ?$$

A: 2	**B**: 8	**C**: 16	**D**: 32	**E**: None of these

Question 22
If a piece of blueberry pie costs $4 and a piece of apple pie costs 50% more than a piece of blueberry pie, how much does a piece of apple pie cost?

A: $3	**B**: $2	**C**: $5	**D**: $6	**E**: None of these

Question 23
Find the missing number in the following series:

$$4 \quad ? \quad 17 \quad 51 \quad 56 \quad 168$$

A: 8	**B**: 10	**C**: 12	**D**: 14	**E**: None of these

Question 24
Oliver has a box of toy cars, but he is not sure how many he has. If he arranges the cars in groups of four, he has three left over. If he arranges them in groups of 3, he has two left over and there are three left over when he puts them in groups of five. Oliver definitely doesn't have any more than 30 cars, so how many does he have?

A: 27	**B**: 28	**C**: 21	**D**: 22	**E**: None of these.

Question 25
From home, Mary's work is two thirds along the way to training. Training is 2.5km from work. Mary normally goes to work, then training and then home again. However, today she forgot her shoes. How far will Mary travel in total today if she has to go home before training to get her shoes?

A: 28km	**B**: 15km	**C**: 20km	**D**: 25km	**E**: None of these

Question 26
A sequence of numbers is changing by the same amount each time. The third, fourth and fifth numbers are 6 , 2 , and -2. What is the sum of the first eight items in the sequence?

A: -64	**B**: 0	**C**: 70	**D**: 14	**E**: None of these

Question 27
Find the missing number in the following series:

$$? \quad 14 \quad 98 \quad 686 \quad 4802$$

A: 3	**B**: 4	**C**: 7	**D**: 9	**E**: None of these

Question 28
The numbers in each box go together in a certain way.
Find the missing number marked by the question mark:

5, 10, 25	9, 18, 81	4, 8, 16	8, 16, ?

A: 24	**B**: 32	**C**: 64	**D**: 128	**E**: None of these

Question 29

It takes 1.5 litres of sugar soap to wash a square metre of ceiling and 0.5 litres of sugar soap to wash a square metre of wall. Bianca's room is 4 metres high and each wall is 5 metres wide. There is one window, which is 4m^2 and a door, which is 9m^2.
How much sugar soap will Bianca need, assuming she does not wash the door or window (a room has four walls and a roof)?

A: 33.5 litres	**B**: 67 litres	**C**: 71 litres	**D**: 77.5 litres	**E**: None of these

Question 30

Two numbers are each multiplied by themselves to give two new numbers. The difference between these two new numbers is less than ten; the difference between the two original numbers was one.
The two original numbers added together was more than 7. What is one of the original numbers?

A: 1	**B**: 2	**C**: 3	**D**: 4	**E**: None of these

Question 31

The novels on Suzanne's bookshelf have a combined total of 672 pages. If each novel has 4 chapters and there are 6 pages per chapter, how many novels are there altogether?

A: 26	**B**: 24	**C**: 28	**D**: 27	**E**: None of these

Question 32

Mandy finds she can get a discount on corn cobs if she buys in bulk. She can get 100 kilograms of corn cobs for $160 from Matt, on condition that she buys at least 100 kilograms. From another supplier, Robert, she can buy small quantities of corn cobs (100 or less) for $1 per cob or larger quantities (more than 100) for $0.60 per cob. Mandy charges all of her customers by weight, so she gets $5 per kilogram of corn cobs or $1.25 for an individual corn cob. If Mandy is going to sell over 100 kilograms of corn cobs today, what is the best profit per corn cob she can make?

A: $0.65	**B**: $0.85	**C**: $0.80	**D**: $0.60	**E**: None of these.

The following story relates to the next three questions.

1 X t-shirts	1 X t-shirts
2 X pants	1 X pants
4 X jumpers	3 X jumpers

Ms Smith	*Ms Able*

T-shirts = $7   Pants= $4   Jumpers= $3.50

Ms Smith and Ms Able are selling used clothes at a trash and treasure stall. The prices are shown above.

Ms Able calculates that half of the money she took is profit. Ms Smith is the same, except for her jumpers- she makes $1 of profit per jumper. <u>Takings</u> (the prices listed above) are the money they take from customers overall. <u>Profit</u> is what they have left over after they have paid all of their expenses.

Question 33

If both sell all of their used clothes, how much money will the person who takes the most get?

A: $28.50	**B**: $29	**C**: $31.50	**D**: $35	**E**: None of these

Question 34

How much profit will Ms Able make?

A: $29	**B**: $28.50	**C**: $14.50	**D**: $11.50	**E**: None of these

Question 35
What is the difference between the profit of Ms Able and Ms Smith?

    A: $2.75   **B**: $0.75   **C**: $0.50   **D**: $7.50   **E**: None of these

Question 36
The fast food company paid the hamburger bun company $120 per 100 hamburger buns. The fast food company charged their customers the same for 3 hamburger buns as they paid for 5.
What was the profit the fast food company made per hundred hamburger buns?

    A: $120   **B**: $80   **C**: $8   **D**: $240   **E**: None of these

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Question 37
The numbers in each box go together in a certain way.
Find the missing number marked by the question mark:

35, 5, 40	55, 40, 95	60, 13, 73	70, 16, ?

    A: 66   **B**: 54   **C**: 86   **D**: 96   **E**: None of these

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Question 38
Find the missing number in the following series:

    89   **75**   **63**   **53**   **45**   **?**

    A: 43   **B**: 39   **C**: 37   **D**: 35   **E**: None of these

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Question 39
A motorbike race was scheduled to start at 4.10pm; however, it started 10 minutes behind schedule. If the motorbike that came first finished one hour and fifteen minutes after the race began, and the motorbike that came in second place finished 15 minutes after this, at what time did the motorbike that came second cross the finish line?

    A: 5.30am   **B**: 5.40pm   **C**: 5.50pm   **D**: 4.30pm   **E**: None of these.

Question 40
Find the missing number in the following series:

    6   120   12   108   24   ?   48   84

    A: 108   **B**: 60   **C**: 74   **D**: 96   **E**: None of these

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Question 41
The Olympic record time for running the endurance event was 4 hours and 40 minutes. Amanda recently broke that record, running a time of 3 hours and 20 minutes.
What fraction of the original record time was Amanda's time?

    A: 5/9   **B**: 6/7   **C**: 5/7   **D**: 6/9   **E**: None of these

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Question 42
Grandma's Anzac cookie mixture has eight parts flour and six parts sugar. If Grandma needs to make 28 kilograms of the Anzac cookie mixture for a party, how many kilograms of flour will she need?

    A: 16   **B**: 10   **C**:12   **D**: 7   **E**: None of these

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Question 43
A farmer bought chickens and ducks to restock his farm. He also purchased milking cows for his wife's milk-making enterprise. The total cost was $11,425. He remembered that the 50 chickens cost $65 each and the cows cost $45 each. He counted 10 ducks in the paddock, but he could not remember what they cost. His wife reminded him that the total number of animals he bought was 75.
Work out for the farmer the price for each duck.

    A: $700   **B**: $750   **C**: $540   **D**: $120   **E**: None of these.

Question 44

In a jar of lollies there are 6 more orange lollies than green ones and there is only one red lolly.

If there are 47 lollies in the jar, how many orange ones are there?

    A: 20   **B**: 40   **C**: 46   **D**: 25   **E**: None of these

The following information relates to the next three questions.

Larger boxes hold 4 smaller boxes each. Different ships carry a different number of larger boxes. The number of larger boxes carried by different types of ships is indicated below:

Ship Type	No. of Larger Boxes	Ship Rental
Tanker	2	$50
Submarine	15	$150
Yacht	20	$400
Tug Boat	10	$95
Sail Boat	1	$25
Navy Ship	5	$50

Question 45

Which ship can transport 12 smaller boxes with the least amount of room left over?

    A: Tanker   **B**: Submarine   **C**: Yacht   **D**: Tug Boat   **E**: Navy Ship

Question 46

There are two of each ship.

What is the smallest number of each type of ship needed to carry 72 smaller boxes, with no spaces left over?

    A: 3   **B**: 2   **C**: 4   **D**: 5   **E**: None of these

Question 47

There are two of each type of ship. Left over spaces are allowed.

What is the cost for the cheapest boat or combination of boats that will take 28 smaller boxes?

    A: $95   **B**: $100   **C**: $175   **D**: $200   **E**: None of these

Question 48

Find the missing number in the following series:

    5184   **1728**   **576**   **192**   **?**

    A: 64   **B**: 44   **C**: 32   **D**: 120   **E**: None of these

Question 49

Find the missing numbers in the following series:

    C   81   E   64   ?   49   I   ?   K

    A: G,36   **B:** F,36   **C:** G,32   **D:** H,24   **E:** None of these

Question 50

How many gold coins are there in a jar of 88 coins, if there are 1/3 as many silver coins as gold coins?

    A: 44   **B**: 66   **C**: 33   **D**: 22   **E**: None of these

WELL DONE. THIS IS THE END OF THE TEST.
IF YOU STILL HAVE TIME LEFT, PLEASE CHECK OVER YOUR ANSWERS.