

TEST

### AMO Grade 5 Mock Test Paper 3

#### QUESTIONS

##### SECTIONS

1. Section A MCQs - 15 Questions
2. Section B Integers - 10 Questions

#### Section 1 : Section A MCQs - 15 Questions

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What is the value of

1  $(115 + 114 + 113 + 112 + 111) - (101 + 102 + 103 + 104 + 105)?$

- ☐ 50
- ☐ 60
- ☐ 70
- ☐ 80
- ☐ 100

Correct: +4 · Incorrect: -1

2 How many digits does  $N$  have if  $N = 2 \times 3 \times 4 \times 5 \times 12 \times 25$ ?

- ☐ 3
- ☐ 4

☐ 5

☐ 6

☐ 7

Correct: +4 · Incorrect: -1

Find the value of

3  $10 \times 1 - 9 \times 2 + 8 \times 3 - 7 \times 4 + 6 \times 5 - 5 \times 6 + 4 \times 7 - 3 \times 8 + 2 \times 9 - 1 \times 10.$

☐ 0

☐ 1

☐ 10

☐ 50

☐ 100

Correct: +4 · Incorrect: -1

4 The product of the digits of the number 217 is 14. What is the least 3-digit odd number whose product of the digits is 6?

☐ 123

☐ 132

☐ 146

☐ 164

☐ 183

Correct: +4 · Incorrect: -1

5 Last holiday, Jonathan received \$134 more than three times the money that Sally received. They received \$710 altogether. How much money did Jonathan receive?

☐ \$144

☐ \$432

☐ \$566

☐ \$576

☐ \$288

Correct: +4 · Incorrect: -1

6 Amy spent  $\frac{1}{4}$  of the cash in her wallet at the game store,  $\frac{2}{3}$  of the remaining cash at a clothing store,  $\frac{1}{3}$  of what was left for lunch, and  $\frac{3}{4}$  of what remained at the shoe store. After spending all that money, she had \$10 left. How much cash did she have at first?

☐ \$24

☐ \$120

☐ \$160

☐ \$240

Correct: +4 · Incorrect: -1

7 The sum of three consecutive whole numbers is 443 more than the greatest of them. What is the least of the three numbers?

☐ 219

☐ 220

☐ 221

☐ 222

☐ 442

Correct: +4 · Incorrect: -1

8 What is the 100<sup>th</sup> number in the sequence below?

17, 24, 31, 38, 45, 52, ...

☐ 703

☐ 710

☐ 717

☐ 724

☐ 731

Correct: +4 · Incorrect: -1

In a magic square, the sum of the numbers in each row, column and diagonal are equal. The odd numbers 1 through 17 are placed in the magic square on the right. What number goes in the square marked with "A"?

|          |           |          |
|----------|-----------|----------|
| <b>A</b> | <b>5</b>  |          |
|          |           | <b>1</b> |
| <b>3</b> | <b>13</b> |          |

9

☐ 7

☐ 9

☐ 11

☐ 15

☐ 17

Correct: +4 · Incorrect: -1

10 If 52 is added to two-fifths of a number, the triple of the number is the result. What is the number?

☐ 8

☐ 12

☐ 16

☐ 20

☐ 24

Correct: +4 · Incorrect: -1

Given that

$$\blacktriangle + \blacksquare + \blacklozenge = 14$$

$$\blacksquare + \blacklozenge + \bullet = 19$$

$$\blacklozenge + \bullet + \blacktriangle = 16$$

$$\bullet + \blacktriangle + \blacksquare = 11,$$

11 what is the value of  $\blacktriangle$ ?

☐ 1

☐ 4

☐ 6

☐ 9

☐ 20

Correct: +4 · Incorrect: -1

12 What is the positive difference between the sum of the multiples of 3 less than 100, and the sum of the multiples of 4 less than 100?

☐ 483

☐ 1200

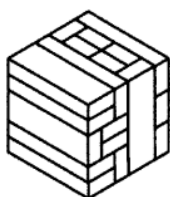
☐ 1683

☐ 3366

☐ 2400

Correct: +4 · Incorrect: -1

The cube at the right is constructed of the same-sized figures as shown. How many figures does the cube contain?



13

☐ 18

☐ 19

☐ 20

☐ 21

☐ 22

Correct: +4 · Incorrect: -1

14

Gina has \$1350 and receives \$11 every week. James has \$1650 and spends \$19 per week. After how many weeks will they have the same amount of money?

☐ 7

☐ 8

☐ 9

☐ 10

☐ 11

Correct: +4 · Incorrect: -1

15 Given  $\square + \triangle + \diamond = 30$ ,  $\triangle + \diamond + \star = 22$ ,  $\diamond + \star + \square = 26$ , and  $\triangle + \diamond + \star + \square = 37$ , find the value of  $\star + \square + \triangle$ .

☐ 7

☐ 11

☐ 15

☐ 33

☐ 26

Correct: +4 · Incorrect: -1

#### Section 2 : Section B Integers - 10 Questions

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Jean has a collection of chips. If the chips are arranged in piles of 12, there will be 11 chips left over. If the chips are arranged in piles of 21, there will be 20 chips left over. What is the least number of chips that Jean owns?

16

Correct: +5

In the following cryptarithm, each different letter represents a different digit. Find the last three digits of the largest possible sum.  
(For Example, if your answer is 1234, then write 234.)

$$\begin{array}{r} \text{MINED} \\ + \text{DENIM} \\ \hline \end{array}$$

17

Correct: +5

Four shaded right-angled triangles with leg lengths  $1 \text{ cm} \times 4 \text{ cm}$ ,  $2 \text{ cm} \times 4 \text{ cm}$ ,  $3 \text{ cm} \times 4 \text{ cm}$ , and  $4 \text{ cm} \times 4 \text{ cm}$  are fitted together to make a quadrilateral. This quadrilateral is then fit into a  $5 \text{ cm} \times 8 \text{ cm}$  rectangle. Find the area, in  $\text{cm}^2$ , of the quadrilateral that was formed (the shaded region).



(Legs of a right-angled triangle are the sides beside the right angle)

18

Correct: +5

Adam can paint a classroom in 6 hours. Ben can paint the same classroom in 12 hours. If they work together, each at their own rate, to paint this classroom, how many hours would they take?

19

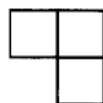
Correct: +5

Each of the whole numbers 1 through 9 is written on 9 cards, one number per card. Three cards are dealt to each of the three players. The sum of Player One's cards is 15. The sum of Player Two's cards is 23. What is the highest single card Player Three could have?

20

Correct: +5

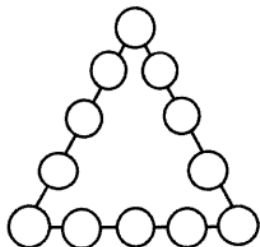
Orville has L-tiles, each made up of three  $1 \times 1$  squares (as shown). What is the greatest number of these L-tiles that can fit into a  $14 \times 10$  rectangle so long as there is no overlap? [Note: The L-tiles can be rotated in order to fit better but not cut.]



21

Correct: +5

The numbers 1 through 12 are placed in the diagram, one in each circle so that the sum of the numbers along each line is the same. What is the smallest possible value of this sum per line?



22

Correct: +5

How many perfect squares less than or equal to 200 are the sum of two consecutive whole numbers?

23

Correct: +5

Karen can paint a wall in 2.5 hours. Stephanie takes 1.25 hours to paint the same size wall. How many minutes will it take for Karen and Stephanie working together to paint the same wall?

24

Correct: +5

The cost of 3 pencils and 1 marker is \$2.10. The cost of 1 pencil and 5 markers is \$6.30. What is the total cost of 14 pencils and 14 markers?

25

Correct: +5

TEST

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### ANSWERS

#### SECTIONS

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2. Section B Integers - 10 Questions

#### Section 1 : Section A MCQs - 15 Questions

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1 50

2 5

3 0

4 123

5 \$566

6 \$240

7 221

8 710

9 7

10 20