

# Literacy for the UAE

## Mathematical Literacy Practice Problems

Academic Year 2020 - 2021

Cycle 3 – G9 & G10

Week 4

Term 2

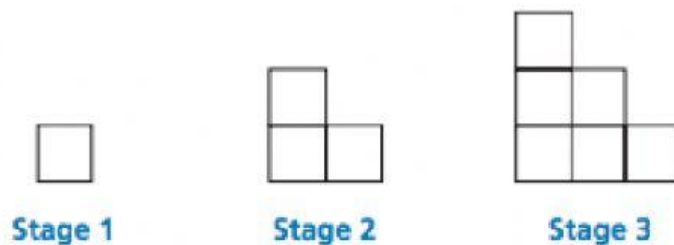


| Week 4 C3 T2     |        | Mathematical Literacy Problems |                                                                                         |   |
|------------------|--------|--------------------------------|-----------------------------------------------------------------------------------------|---|
| Grade            | 9+10   | Skills                         | Formulate<br>21 <sup>st</sup> Century Skill – Self-Direction, Initiative, & Persistence |   |
| Difficulty level | Medium | Question                       | نمط الخطوة                                                                              | 1 |
|                  |        |                                | Step Pattern                                                                            |   |

## MATHEMATICS UNIT 26: STEP PATTERN

### QUESTION 26.1

Robert builds a step pattern using squares. Here are the stages he follows.



As you can see, he uses one square for Stage 1, three squares for Stage 2 and six for Stage 3.

How many squares should he use for the fourth stage?

Answer: .....squares.

### Answer



| Week 4 C3 T2     |           | Mathematical Literacy Problems |                                                                                      |   |
|------------------|-----------|--------------------------------|--------------------------------------------------------------------------------------|---|
| Grade            | 9+10      | Skills                         | Employ<br>21 <sup>st</sup> Century Skill – Self-Direction, Initiative, & Persistence |   |
| Difficulty level | Difficult | Question                       | السيارة الأفضل                                                                       | 2 |
|                  |           |                                | The Best Car                                                                         |   |

## MATHEMATICS UNIT 25: THE BEST CAR

A car magazine uses a rating system to evaluate new cars, and gives the award of "The Car of the Year" to the car with the highest total score. Five new cars are being evaluated, and their ratings are shown in the table.

| Car | Safety Features (S) | Fuel Efficiency (F) | External Appearance (E) | Internal Fittings (T) |
|-----|---------------------|---------------------|-------------------------|-----------------------|
| Ca  | 3                   | 1                   | 2                       | 3                     |
| M2  | 2                   | 2                   | 2                       | 2                     |
| Sp  | 3                   | 1                   | 3                       | 2                     |
| N1  | 1                   | 3                   | 3                       | 3                     |
| KK  | 3                   | 2                   | 3                       | 2                     |

The ratings are interpreted as follows:

3 points = Excellent

2 points = Good

1 point = Fair

**QUESTION 25.1**

To calculate the total score for a car, the car magazine uses the following rule, which is a weighted sum of the individual score points:

$$\text{Total Score} = (3 \times S) + F + E + T$$

Calculate the total score for Car "Ca". Write your answer in the space below.

Total score for "Ca": .....

**QUESTION 25.2**

The manufacturer of car "Ca" thought the rule for the total score was unfair.

Write down a rule for calculating the total score so that Car "Ca" will be the winner.

Your rule should include all four of the variables, and you should write down your rule by filling in positive numbers in the four spaces in the equation below.

$$\text{Total score} = \dots \times S + \dots \times F + \dots \times E + \dots \times T.$$

**Answer**