

Mathematics level 1

Measurement and Geometry

Example: Measurement

Clare goes to see a movie.

The movie starts at 3.20 pm.

It lasts for 110 minutes.

What time does the movie finish?

- A 4.10 pm
- B 4.30 pm
- C 5.10 pm
- D 5.30 pm

ANSWER C: 5:10 pm

Students select option A: as they may break 110 minutes into 1 hour and 50 minutes, but only add 50 minutes to 3:20 pm forgetting about the additional 1 hour.

Students select option B: as they may add 3:20 and 1:10 together, not considering that there are 60 minutes in 1 hour.

Students select option D: as they may think there are 50 minutes in 1 hour, therefore adding 2 hours and 10 minutes to 3:20 pm.

COMMENTARY

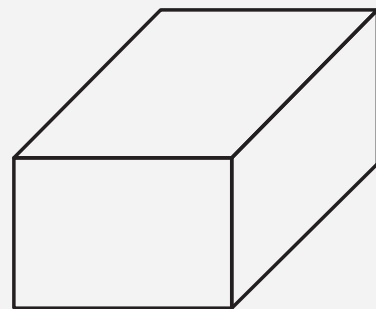
Students are required to identify how to solve the worded problem of identifying the end time for a movie. Students need to add the length of the movie (110 minutes) to the start time of 3:20 pm. Students need to be aware that there are 60 minutes in an hour and account for this in their calculation.

Example: Geometry

This is a rectangular prism.

How many faces does it have?

- A 3
- B 6
- C 8
- D 12



ANSWER B: 6

Students select option A: as they may only count the visible faces.

Students select option C: as they may find the number of corners of the prism.

Students select option D: as they may find the number of edges of the prism.

COMMENTARY

Students are required to understand the term 'face' and apply it to a 2-dimensional representation of a 3-dimensional object.

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Number and Algebra

Example: Number

Jack has 3 boxes of pens.

There are 24 pens in each box.

How many pens does Jack have altogether?

- A 27
- B 62
- C 72
- D 75

ANSWER C: 72

Students select option A: as they may add 3 and 24 from the question.

Students select option B: as they may make a calculation error in 3×24

Students select option D: as they may make a calculation error in 3×24

COMMENTARY

Students are required to read and understand a worded problem, to identify which operation to use and to carry out the calculation correctly. Students need to multiply or add repeatedly to find 3 groups of 24.

Example: Algebra

These numbers follow a pattern.

21, 14, 16, 9, 11, 4, 6

What rule describes this pattern?

- A subtract 7 then add 2
- B subtract 7
- C add 7 then subtract 2
- D add 2

ANSWER A: subtract 7 then add 2

Students select option B: as they may only look at the difference between the first and second terms.

Students select option C: as they may identify the differences but confuse the operations.

Students select option D: as they may only look at the difference between the last two terms of the pattern.

COMMENTARY

Students are required to identify the given pattern of subtract 7, add 2, by working out the difference between each of the terms in the pattern. They are then required to identify the rule that describes this.

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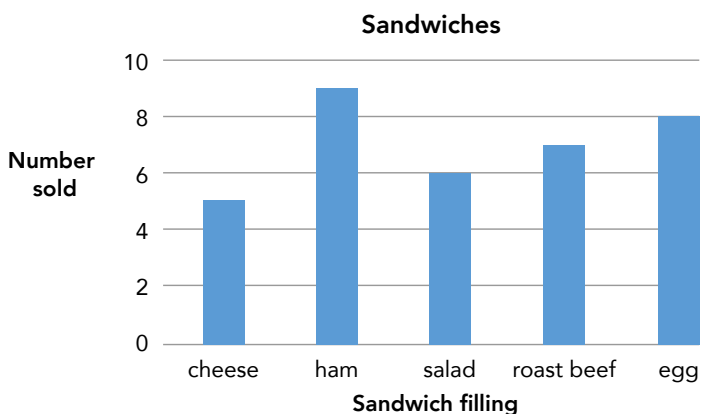
Statistics and Probability

Example: Statistics

This graph shows the number of sandwiches with different fillings a cafe sells in one day.

How many more egg than salad sandwiches did the cafe sell?

- A 1
- B 2
- C 6
- D 8



ANSWER B: 2

Students select option A: as they may think 1 space between the lines is equal to the value of 1.

Students select option C: as they may identify the total number of salad sandwiches.

Students select option D: as they may identify the total number of egg sandwiches.

COMMENTARY

Students are required to read and interpret a column graph, where the scale is 2 units. They also need to find the difference between two of the columns.

Example: Probability

Olivia puts 1 red counter and 20 green counters in a bag.

She takes one from the bag without looking.

What is the chance that the counter she takes is green?

- A impossible
- B unlikely
- C likely
- D certain

ANSWER C: likely

Students select option A: as they may misunderstand the problem.

Students select option B: as they may identify the chance for red, not green.

Students select option D: as they may think as there are more green counters the outcome is certain.

COMMENTARY

Students are required to visualise a problem involving probability, where one item is selected from a set.