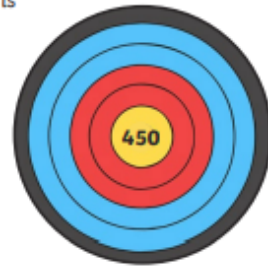


- 1) a) Use the digit cards to complete this calculation to make an answer that is as close to the target number as possible. Each card may be used more than once.



$$\square \times \square \times 7 =$$



- b) Explain how you solved this problem.

- 2) Colour the arrays below to represent three different possible efficient multiplication strategies that can be used to solve 16×5 . Record the calculations to match each array.

Method 1



Method 2



Method 3



Challenge Answers

1) A	B	C	D
$10 \times 9 = 90$	$10 \times 13 = 130$	$12 \times 9 = 108$	$5 \times 13 = 65$
$3 \times 9 = 27$	$130 - 13 = 117$	$1 \times 9 = 9$	$5 \times 13 = 65$
$90 + 27 = 117$		$108 + 9 = 117$	$65 + 65 = 130$



D is the odd one out because it represents a method for the multiplication 10×13 , which gives an answer of 130. However, the other methods represent the calculation 9×13 , which has an answer of 117.

- 2) a) Rory has calculated 10 lots of 7 twice, which means he has calculated 20 groups of 7 and not 30. What he needed to do was calculate a third lot of 10×7 and add this to the total. All he would then need to do is add one more lot of 7 to find the answer.

e.g.

$$10 \times 7 = 70$$

$$10 \times 7 = 70$$

$$10 \times 7 = 70$$

$$1 \times 7 = 7$$

$$70 + 70 + 70 + 7 = 217$$

- b) Children will come up with many alternative methods. Mark correctly if it is explained clearly and gives the correct answer. Possible answer:

$$3 \times 7 = 21$$

$$21 \times 10 = 210$$

$$210 + 7 = 217$$

- 1) a) $8 \times 8 \times 7 = 448$ is the closest possible answer to 450.

- b) Example answer:

Children's explanations will vary. Accept any sensible answer where children have explained their reasoning.



- 2) Possible answers. Children may suggest alternatives.

Method 1



$$10 \times 5 = 50$$

$$6 \times 5 = 30$$

$$50 + 30 = 80$$

Method 2



$$5 \times 2 \times 8 = 80$$

Method 3



$$8 \times 5 = 40$$

$$8 \times 5 = 40$$

$$40 + 40 = 80$$