Efficient Multiplication

1) Copy and complete the calculations by using known times table facts.

a)

7 × 8

7 × 4 = _____

_____ + _____ = _____

b)

7 × 8

7 × 5 = _____

7 × 3 = _____

_____ + _____ = _____

c)

7 × 12

7 × 6 = _____

_____ + _____ = _____

d)

7 × 12

7 × 10 = _____

7 × 2 = _____

_____ + _____ = _____

2) Write two different ways to calculate the answer to each multiplication using known facts.

a) 8 × 6

b) 6 × 9

c) 9 × 8

d) 6 × 12

3) Identify the missing number in each of these known facts statements.

A 12 × 8 = 12 × 4 × _____

B 9 × 4 = 9 × 2 × _____

C 14 × 5 = 14 × 10 ÷ _____

D 19 × 4 = 20 × 4 − _____ × 4

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Efficient Multiplication

1)

a) Explain the mistake Elias has made.



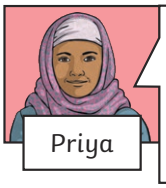
Elias

I can calculate the answer to 46 × 8 by adding together the answers to 4 × 8 and 6 × 8.

b) Find a correct and efficient way for Elias to calculate the answer to 46 × 8.

2)

a) Do you agree with Priya's statement? Explain why.



Priya

I can use multiplication and division to find the answer to 57 × 4 most efficiently.

b) Use an efficient method to find the answer to Priya's calculation.

3) Whose method would you use to calculate 72 × 5?

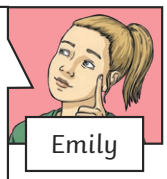
Explain why you think this would be the most efficient.



Bartek

50 × 10 = 500
20 × 10 = 200
2 × 10 = 20
500 + 200 + 20 = 720
720 ÷ 2 = 360
72 × 5 = **360**

50 × 5 = 250
20 × 5 = 100
2 × 5 = 10
250 + 100 + 10 = 360
72 × 5 = **360**



Emily



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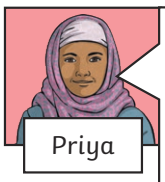
Emily

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Efficient Multiplication

1) Priya, Bartek and Elias each choose a number to multiply by 6 using an efficient multiplication.
Work out the numbers that they chose.



Priya

First, I multiplied 30 × 6 and then I subtracted a multiple of 6 from this.

The answer to my calculation is 156.



Bartek

First, I multiplied 30 × 6 and then I added a multiple of 6 to this.

The answer to my calculation is 210.



Elias

First, I multiplied 40 × 3 and then I added a multiple of 3 to this.

Then, I doubled this total.

The answer to my calculation is 276.

2) Use each of these numbers once to complete these calculations.

7	10	5
30	56	20
10	8	2

a) ☐ × ☐ ÷ ☐ = 280

b) ☐ × ☐ × ☐ = 280

c) ☐ × ☐ − ☐ = 280

3) Solve the calculation 24 × 5 using efficient methods and each of the following criteria:

a) use multiplication and addition

b) use multiplication and subtraction

c) use multiplication and division



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