



# Introducing Problem Solving

*Problem Solving Solved*

**“ Problem solving is knowing what to do....  
... when you don't know what to do. ”**

- **25% of the marks on Foundation**
- **30% of the marks on Higher**

# Introducing problem solving: profit



***Understand the question***



***Ask your own questions***



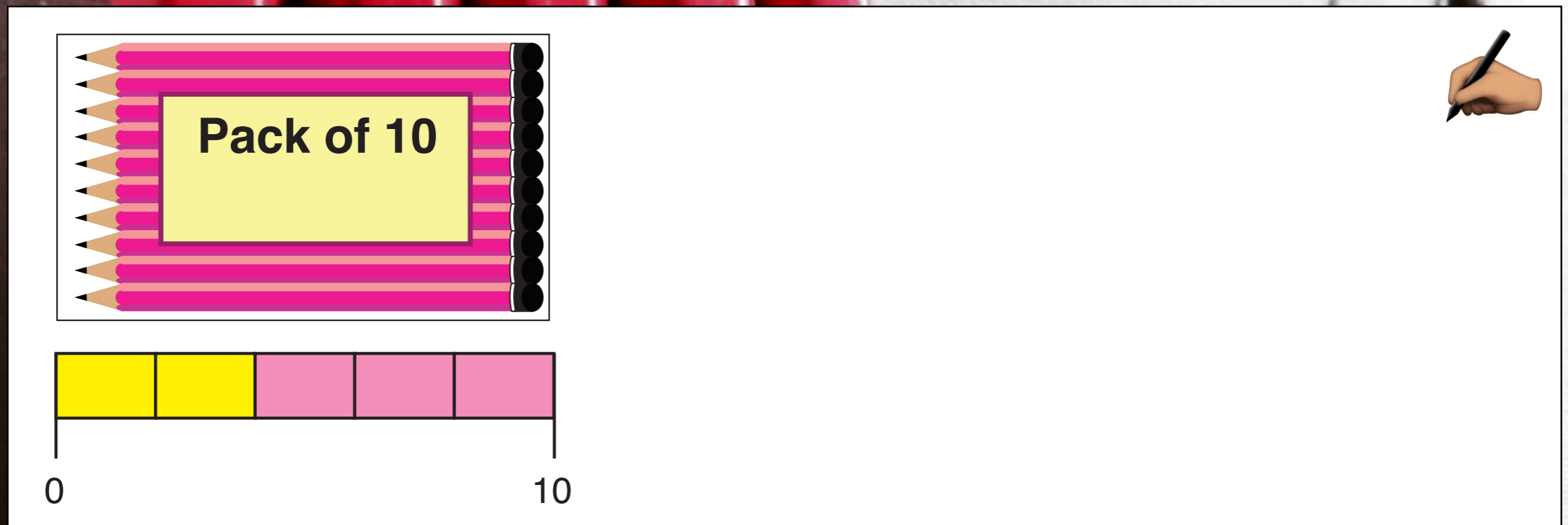
***Connect ideas***



***Change direction***

**?** *Ask your own questions*

The diagram shows 10 pencils



**1** Write some questions to go with the information. Just write questions, don't answer them yet.

**?** *Ask your own questions*

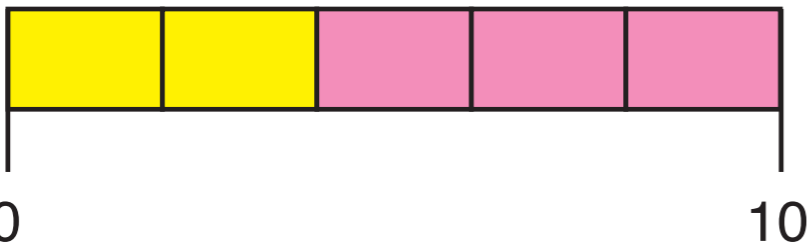
**The diagram shows 10 pencils**



**How many are two - fifths of the pencils?**

**How many are three - fifths of the pencils?**

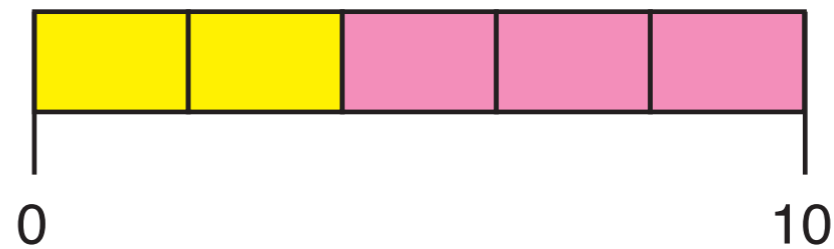
**Did you have any other questions?**



**1** **Write some questions to go with the information. Just write questions, don't answer them yet.**

## 1 Understand the question

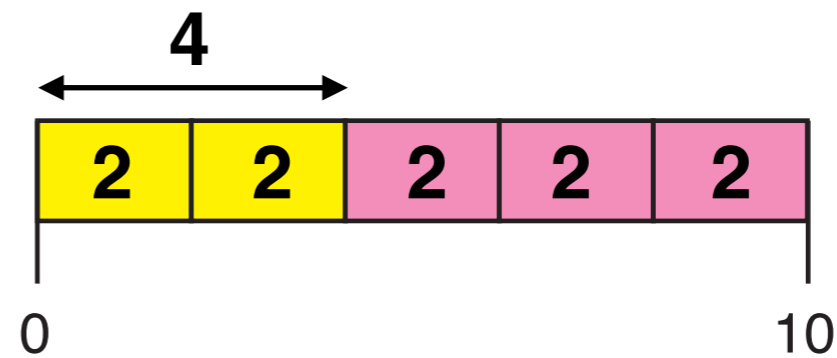
Damien sells  $\frac{2}{5}$  of the pencils he bought.



## 2 Calculate $\frac{2}{5}$ of 10

## 1 Understand the question

Damien sells  $\frac{2}{5}$  of the pencils he bought.

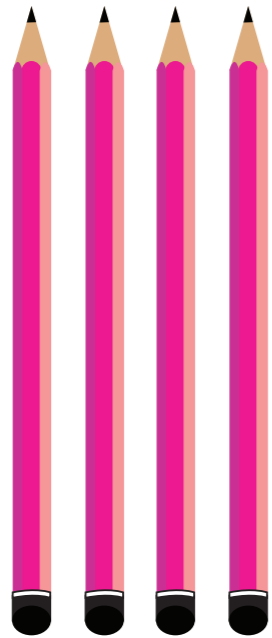


$$\frac{2}{5} \times 10 = 4$$

## 2 Calculate $\frac{2}{5}$ of 10

**?** Ask your own questions

Damien sells 4 pencils for 40p each.



4 pencils

40p each



**3** Write a question to go with the information.  
Answer your question.



**?** Ask your own questions

Damien sells 4 pencils for 40p each.



4 pencils

How much money did Damien receive?

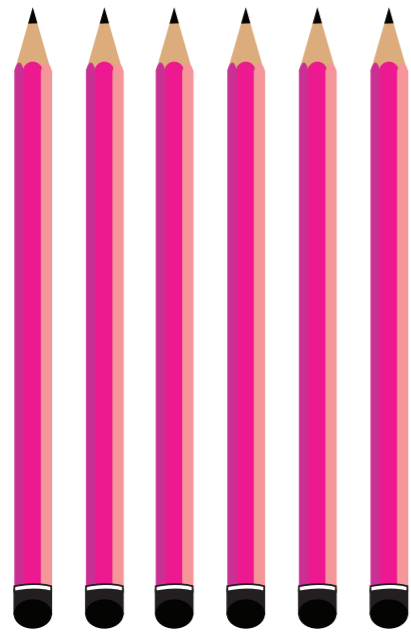
**40p each**

Answer:  $40p \times 4 = \text{£}1.60$

**3** Write a question to go with the information.  
Answer your question.

## 1 Understand the question

Damien sells the remaining 6 pencils for 30p each.



6 pencils

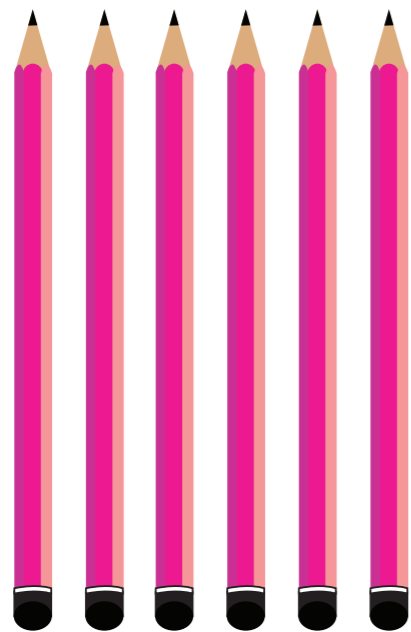
30p each



4 Write a question to go with the information.  
Answer your question.

## 1 Understand the question

Damien sells the remaining 6 pencils for 30p each.



6 pencils

How much money did Damien receive?

30p each

Answer:  $30p \times 6 = \text{£}1.80$

4 Write a question to go with the information.  
Answer your question.



**Connect ideas**

**5**

**Write a question to go with the information.  
Answer your question.**



**£1.60**



**£1.80**





**Connect ideas**

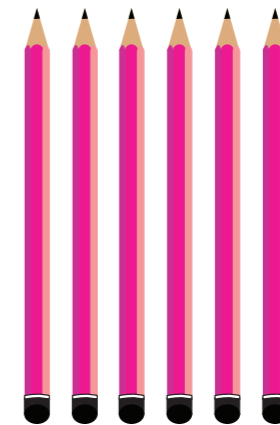
**5**

**Write a question to go with the information.  
Answer your question.**

**What is the total amount of  
money that Damien received?**



**£1.60**



**£1.80**

$$\text{£1.60} + \text{£1.80} = \text{£3.40}$$



## Connect ideas

Damien bought the pencils for £1.50  
He sold them for £3.40



**Bought**



**Sold**



**6**

Write a question to go with the information.  
Answer your question.



## Connect ideas

Damien bought the pencils for £1.50  
He sold them for £3.40



**Bought**



**Sold**



How much profit did Damien make?

$$£3.40 - £1.50 = £1.90$$

**6**

Write a question to go with the information.  
Answer your question.

# Introducing problem solving: profit



**Change direction**

**If things don't work out...**



**Don't do the same thing over and over...  
... expecting to get different results.**

*Einstein*



- **Learn from what you have done**
- **Try something different**

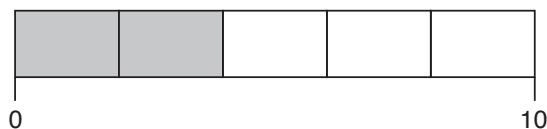


# Introducing problem solving: profit



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1 Here is some information.



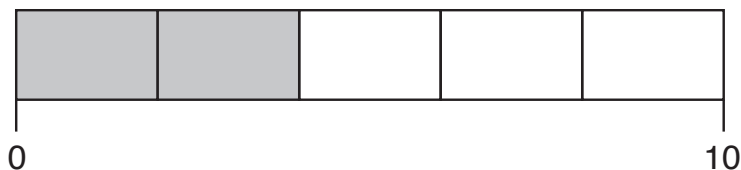
Write some questions to go with the information.  
Just write some questions, don't answer them yet.

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2 Calculate  $\frac{2}{5}$  of 10

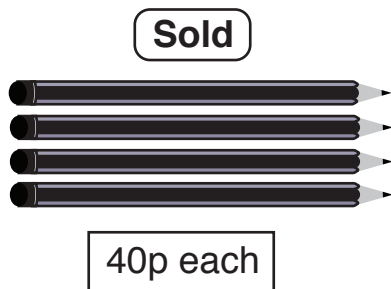


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3 Here is some information:



Write a question:

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Answer your question:

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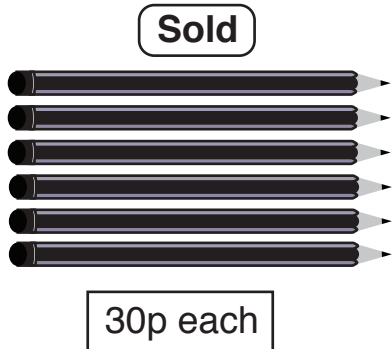
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# Introducing problem solving: profit



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4 Here is some information:



Write a question:

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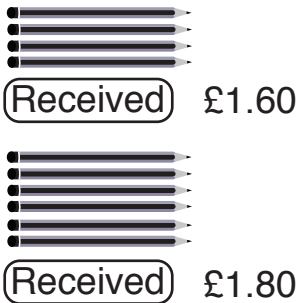
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Answer your question:

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5 Here is some information:



Write a question:

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Answer your question:

---

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6 Here is some information:



Write a question:

---

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Answer your question:

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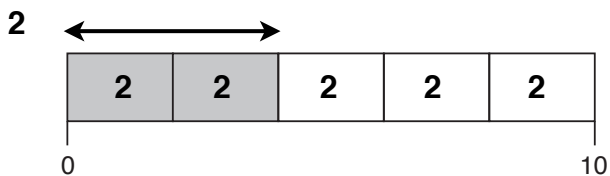
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1 Example questions include:

How many are two-fifths of the pencils?

How many are three-fifths of the pencils?



$$\frac{2}{5} \times 10 = 4$$

3 **Question:** How much money did Damien receive?

**Answer:**  $40\text{p} \times 4 = \text{£}1.60$

4 **Question:** How much money did Damien receive?

**Answer:**  $30\text{p} \times 6 = \text{£}1.80$

5 **Question:** What is the total amount of money that Damien received?

**Answer:**  $\text{£}1.60 + \text{£}1.80 = \text{£}3.40$

6 **Question:** How much profit did Damien make?

**Answer:**  $\text{£}3.40 - \text{£}1.50 = \text{£}1.90$