

Common error 11

Candidates who use the **EXP** key for **x10** often make this error:

6.7 x 10⁸ **Wrong keys** 6 . 7 EXP x 1 0 ^y 8

ie They will use **EXP** and **10⁸**

Correct keys 6 . 7 EXP 8

Common error 12

Pupils do not know the meaning of the words 'of ' and 'out of'.

eg $\frac{3}{8}$ of 6

of means x

means $\frac{3}{8}$ x 6

4 out of 20

out of means ÷

means $4 \div 20$

Common errors: Percentages

Common error 13

Question: A man earns £20 000 per annum. He receives a 5% increase each year. How much does he earn after 3 years?

$3 \times 5\% = 15\%$

Therefore a 15% increase.

Wrong working shown by the pupil is usually one of the following:

$\begin{aligned} \text{£}20\,000 \times 1.15 \\ = \text{£}23\,000 \end{aligned}$

or

$\begin{aligned} \text{£}20\,000 \times \frac{15}{100} &= \text{£}3000 \\ \text{£}20\,000 + \text{£}3000 &= \text{£}23\,000 \end{aligned}$

These produce the **wrong** answer £23 000.

Correct answer
 $\text{£}20\,000 \times 1.05^3 = \text{£}23\,152.50$

Common error 14

Question: The price of a car increases by 4%. The price after the increase is £16 640. What was the price before the increase?

The pupils usually finds 4% of £16 640.

Wrong working shown by the pupil is usually one of the following:

$\begin{aligned} & \text{£}16\,640 \times 0.96 \\ & = \text{£}15\,974.40 \end{aligned}$	or	$\begin{aligned} & \text{£}16\,640 \times \frac{4}{100} = \text{£}665.60 \\ & \text{£}16\,640 - \text{£}665.60 = \text{£}15\,974.40 \end{aligned}$
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These produce the **wrong** answer £15 974.40

Correct answer	
$\begin{aligned} & \text{£}16\,640 \times \frac{100}{104} \\ & = \text{£}16\,000 \end{aligned}$	<p style="text-align: center;">Or</p> $\begin{aligned} & \text{£}16\,640 \div 1.04 \\ & = \text{£}16\,000 \end{aligned}$

Common errors: Indices

Common error 15

- a **Common error** $a^3 \times a^5 = a^{15}$
- b **Common error** $a^8 \div a^2 = a^4$
- c **Common error** $a^4 \times a = a^4$
- d **Common error** $a^4 \div a = a^4$
- e **Common error** $a^4 \div a^4 = a^0 = 0$

Common error 16

Given $a = 3$, find the value of $4a^2$

$4 \times 3 \longrightarrow 12 \longrightarrow \mathbf{144}$

ie Pupil multiplies 4 by 3 then squares the result.

Common error 17

$a + 3a + 2a = 5a$

↑

Pupils forget this means 1a

Common error 18

Given $a = 2$ and $c = 3$ evaluate ac

Many pupils write 23 or $2 + 3 = 5$

They forget ac means $a \times c$

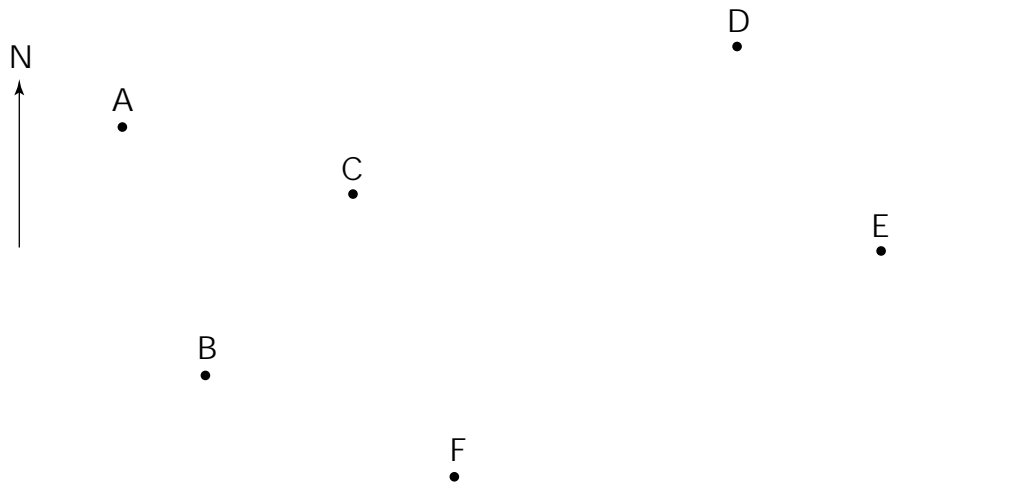
Common errors: Expansion of brackets

Common error 19

$3(4a + 2)$

$12a + 2 \longleftarrow$ Pupil forgets to multiply 2 by 3

Bearings



Speed mark

Error

- 1 What is the bearing of D from C?
- 2 What is the bearing of D from F?
- 3 What is the bearing of E from F?
- 4 What is the bearing of E from B?
- 5 What is the bearing of A from F?
- 6 What is the bearing of A from D?
- 7 What is the bearing of F from C?
- 8 What is the bearing of C from F?
- 9 What is the bearing of B from D?
- 10 What is the bearing of D from B?
- 11 What is the bearing of E from A?
- 12 What is the bearing of F from A?

36

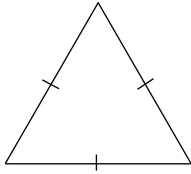
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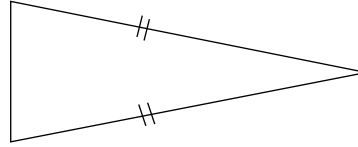
2-D and 3-D shapes

Name these shapes:

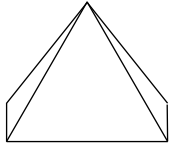
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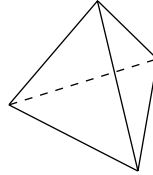
2



3



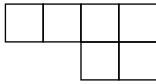
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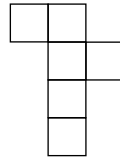
Which of these shapes will fold to make a cube?

Answer 'Yes' or 'No'.

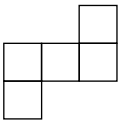
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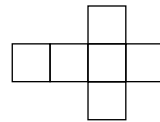
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7



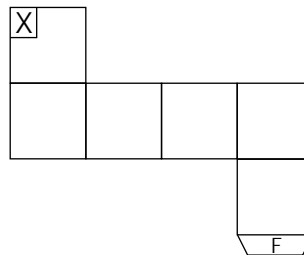
8



This net will fold to form a cube.

9 Place an X in each corner which touches the X.

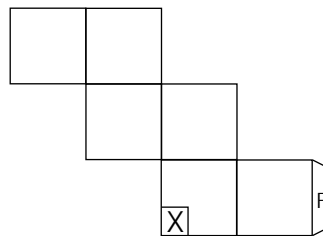
10 Place an F on the side where the flap will fit.



This net will fold to form a cube.

11 Place an X in each corner which touches the X.

12 Place an F on the side where the flap will fit.



Error

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