### 16th January

**Evaluate**

\[(125x^6)^{\frac{2}{3}}\]

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A bag contains 14 sweets.
- 8 sweets are red.
- 4 sweets are yellow.
- 2 sweets are green.
Two sweets are taken from the bag without replacement.

**Work out the probability that the two sweets are different colours.**

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**Calculate the bearing of A from B.**

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Ship A is 50km from X on a bearing of 258°.
Ship B is 44km from X on a bearing of 312°.

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**Shown is a right angle triangle.**

Find the possible value(s) of x

\[
\begin{align*}
2x + 3 &= 5x + 1 \\
2x + 4 &
\end{align*}
\]

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**Shown below is a rectangular based pyramid.**

The apex E is directly over the centre of the base.

Calculate angle between the face ABE and the base ABCD.