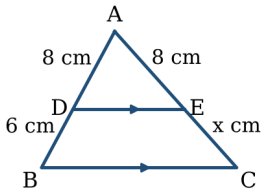
Day 280 **A Tier 10-a-day**

1 (a) A film starts at 8:45 pm. The film lasts 1 hours 52 minutes. Work out the time it ends.
(b) Change 210 minutes into hours. Give your answer as a decimal.

2 Factorise $x^2 - 9x + 20$

3 In triangle ABC, DE is parallel to BC.
D is on AB and E is on AC.
Work out the value of x.
The diagram is not drawn accurately.



4 The stem and leaf diagram shows the ages of 15 people.
Key: 3 | 0 represents 30 years
(a) Work out the median age.
(b) Work out the interquartile range.

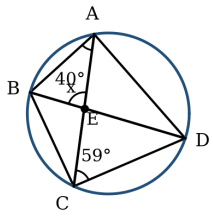
Stem	Leaf
3	0 2 4 6
4	0 7
5	0 1 3 4
6	2 3 6 7 9

5 (a) Factorise $x^2 - 25$
(b) Use the same idea to work out $78^2 - 22^2$ without a calculator.

Day 280 **A Tier 10-a-day**

6 Light travels at 3×10^5 kilometres per second.
The Sun is 7.8×10^7 kilometres from Earth.
Work out how many seconds light takes to travel from the Sun to Earth.
Give your answer in standard form.

7 A, B, C and D are points on a circle. AC and BD meet at E.
Angle BAC = 40° and angle ACD = 59°.
Work out the size of angle x (angle AEB).
Give reasons for your working.



8 Jug A contains 36 litres of a mixture of red paint and white paint in the ratio 2 : 7.
Jug B contains 12 litres of a mixture of red paint and white paint in the ratio 1 : 2.
The contents of both jugs are mixed together.
Work out the ratio of red paint to white paint in the mixture. Give your answer in its simplest form.

9 The graph of y = f(x) has a minimum point at (−1, 4).
Write down the coordinates of the turning point of the graph of
(a) y = f(x + 2)
(b) y = 2f(x)

10 Work out the size of angle x. (Calculator)
Give your answer to 1 decimal place.
The diagram is not drawn accurately.

