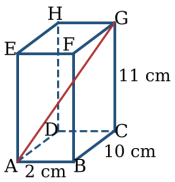
Day 295	S Tier 10-a-day
1 The interior angles of a pentagon are $x°$, $(x + 30)°$, $(x - 5)°$, $(x + 25)°$, $(x + 15)°$ (a) Work out the value of x. (b) Work out the size of the largest angle.	
2 The ratio of juniors to seniors in a school is 3 : 2. 15% of the juniors and 60% of the seniors play a sport. What percentage of all of these students play a sport?	
3 (a) Solve $-3 - 2x \geq 17$ (b) n is an integer. Write down all the values of n that satisfy $-4 \leq 2n < 8$	
4 Here are six numbers. $3 + \sqrt{12}$, $\frac{\sqrt{18}}{\sqrt{2}}$, $\sqrt{8} \times \sqrt{2}$, $\sqrt{\frac{9}{16}}$, $2\pi - \pi$, $(\sqrt{6} + 2)(\sqrt{6} - 2)$ Write down the irrational numbers.	
5 The ratio of men to women people at a meeting is 5 : 3. Then $\frac{3}{4}$ of the men and $\frac{1}{4}$ of the women are taken out. Work out the ratio of men to women now.	

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6 The diagram shows a cuboid ABCDEFGH. (Calculator) (a) Work out the length of the diagonal AG. (b) Work out the angle between AG and the base ABCD, to 1 decimal place. The diagram is not drawn accurately. 	
7 Solve $x - 7\sqrt{x} + 10 = 0$	
8 The radius of a sphere is decreased by 60%. Work out the percentage change in the volume of the sphere.	
9 A walker leaves a camp P and travels 74 km on a bearing of 140° to Q. (Calculator) It then travels 46 km on a bearing of 070° to R. (a) Work out the distance PR. (b) Work out the bearing of R from P. Give distances to 1 decimal place and the bearing to the nearest degree.	
10 How many factors does 3430 have? Include 1 and 3430.	