

Week 12

This week in a nutshell:

Much of this week's work revisits topics, but is more conceptually demanding in order to make sure the ideas are fully embedded.

No extra time should be needed and increasing the time to answer should be discouraged. Discussion of the answers and clearing up any remaining difficulties would be of greater benefit to the students.

Question 1: Comparing distributions

Question 2: Financial maths

Question 3: Length, area, volume

Question 4: Interpret calculator displays

Question 5: Plans and elevations

This week's ideas for class discussion include:

Question 1: **Comparing distributions**

- Can the use of one (or two/three) measures fully compare entire groups of data?
- How useful/effective do you think this approach is?

Question 2: **Financial maths**

- How important is it to be confident in dealing with maths in terms of our finances?

Question 3: **Length, area, volume**

- How do the units of measure used here relate to the dimension the object is based in?

Question 4: **Interpret calculator displays**

- Should we always trust our calculator output?

Question 5: **Plans and elevations**

- What fields of employment are these skills deployed in?

Week 12: Day 1

- 1) Which data set has the greater mean?

Set A: 23, 21, 18, 32

Set B: 22, 20, 34, 21, 14

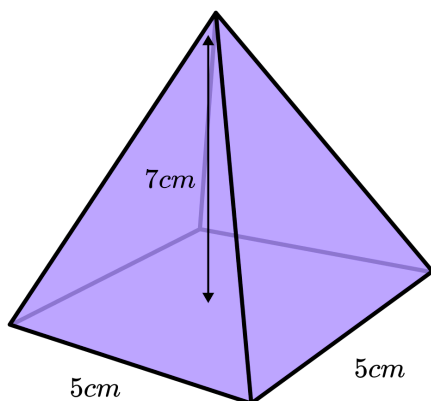
- 2) Joey earns £2.50 per day for his paper round. How much does he get paid per week if his only day off is Sunday?

- 3) A square has side length 12 cm, what is its area?

- 4) Round the calculator display to 2 decimal places:



- 5) The apex of this square based pyramid is directly above the middle of the base. Draw an accurate plan of the pyramid.



Week 12: Day 1 Answers

- 1) Which data set has the greater mean?

Set A: 23, 21, 18, 32 23.5

Set B: 22, 20, 34, 21, 14 22.2

- 2) Joey earns £2.50 per day for his paper round. How much does he get paid per week if his only day off is Sunday? £15

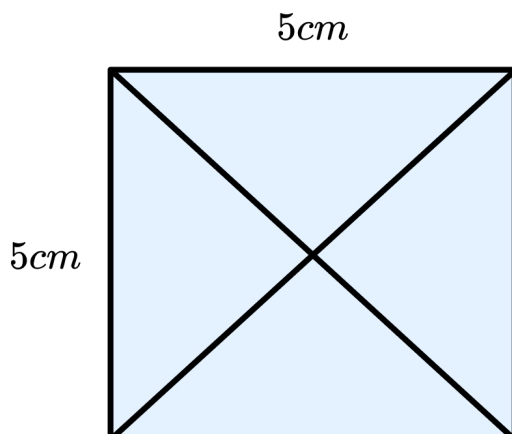
- 3) A square has side length 12 cm, what is its area? 144cm^2

- 4) Round the calculator display to 2 decimal places:



3.14

- 5) The apex of this square based pyramid is directly above the middle of the base. Draw an accurate plan of the pyramid.



Week 12: Day 2

- 1) Which data set has the greater range?

Set A: 23, 21, 18, 32

Set B: 22, 20, 34, 21, 14

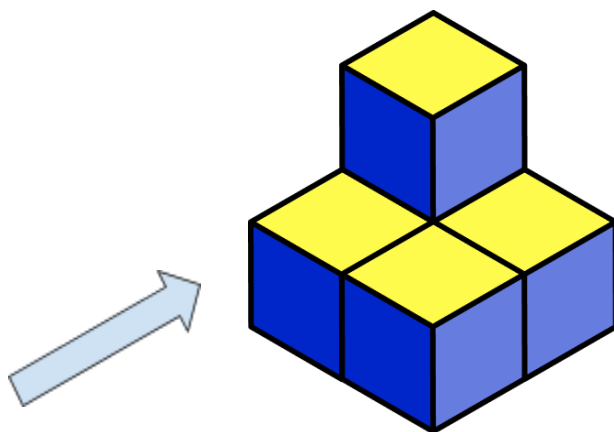
- 2) A bag of nuts costs 40p. How many bags of nuts can be bought with a £5 note?

- 3) A cube has edge length 4cm. What is its volume?

- 4) Round the calculator display to 3 significant figures.



- 5) Sketch the side elevation of this object, viewed as indicated by the arrow.



Week 12: Day 2 Answers

- 1) Which data set has the greater range?

Set A: 23, 21, 18, 32 14

Set B: 22, 20, 34, 21, 14 20

- 2) A bag of nuts costs 40p. How many bags of nuts can be bought with a £5 note? 12

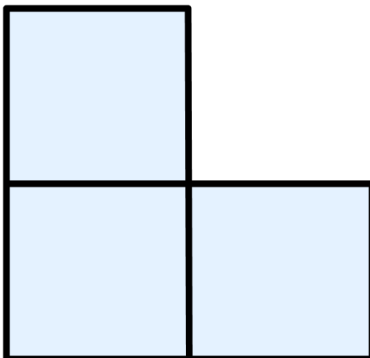
- 3) A cube has edge length 4cm. What is its volume? 64cm^3

- 4) Round the calculator display to 3 significant figures.



590000

- 5) Sketch the side elevation of this object, viewed as indicated by the arrow.



Week 12: Day 3

- 1) Which data set is more consistent?

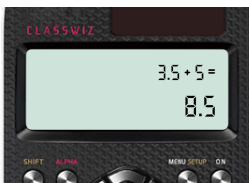
Set A: 11, 12, 14, 16, 18, 19

Set B: 10, 11, 13, 17, 19, 20

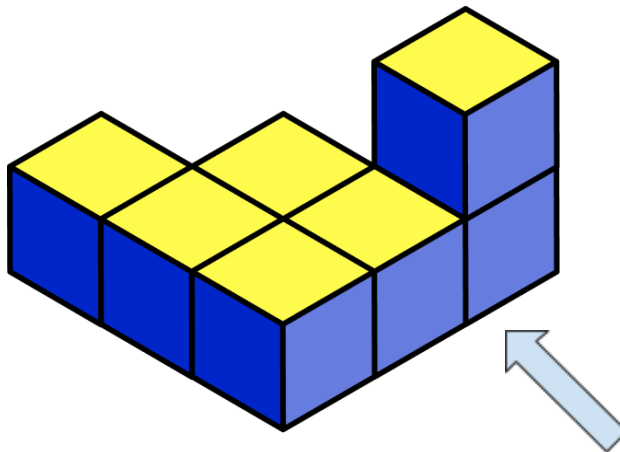
- 2) Kiely is paid £7.20 per hour. How much is she paid for 8 hours of work?

- 3) A cube has volume 125cm^3 . What is its edge length?

- 4) This calculator display is in hours. Write the answer as hours and minutes.



- 5) Sketch the side elevation of this object, viewed as indicated by the arrow.



Week 12: Day 3 Answers

- 1) Which data set is more consistent?

Set A: 11, 12, 14, 16, 18, 19

Set B: 10, 11, 13, 17, 19, 20

- 2) Kiely is paid £7.20 per hour. How much is she paid for 8 hours of work?

£57.60

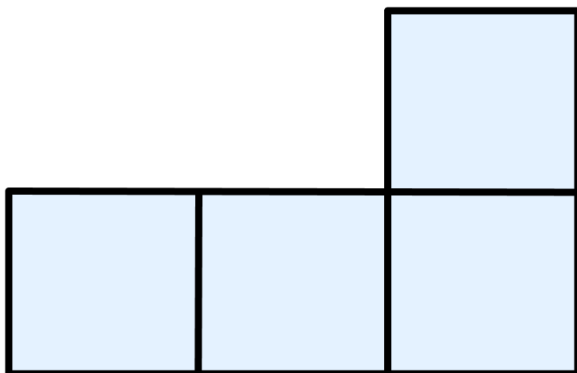
- 3) A cube has volume 125cm^3 . What is its edge length? 5cm

- 4) This calculator display is in hours. Write the answer as hours and minutes.



8 hours 30 minutes

- 5) Sketch the side elevation of this object, viewed as indicated by the arrow.



Week 12: Day 4

- 1) Which data set has the lower median?

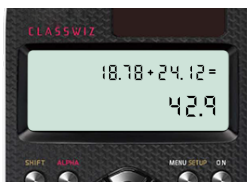
Set A: 32, 12, 17, 28, 26

Set B: 24, 18, 25, 23, 27, 28, 21

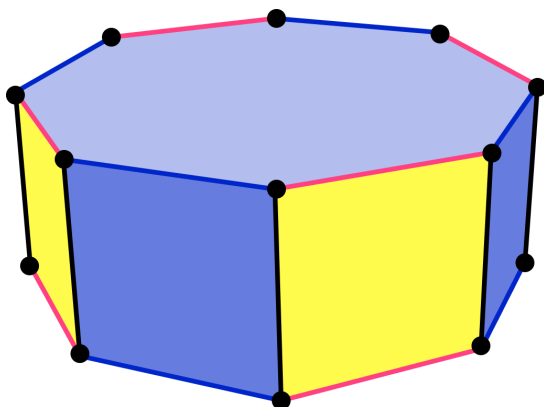
- 2) Gert's salary is £26000 per annum. How much is Gert paid per week?

- 3) A cube's volume is 8cm^3 . What is its surface area?

- 4) Lucy is adding up two prices. Interpret her calculator display as pounds and pence.



- 5) Sketch a plan of this drum. The square faces have edge length 3cm. The top of the drum is a regular polygon.



Week 12: Day 4 Answers

- 1) Which data set has the lower median?

Set A: 32, 12, 17, 28, 26

Set B: 24, 18, 25, 23, 27, 28, 21

- 2) Gert's salary is £26000 per annum. How much is Gert paid per week?

£500

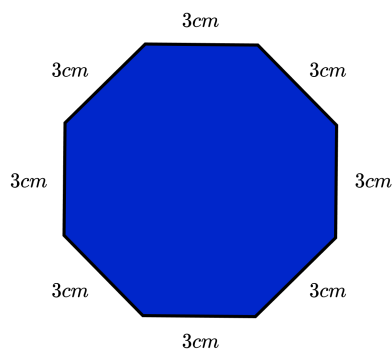
- 3) A cube's volume is 8cm^3 . What is its surface area? 24cm^2

- 4) Lucy is adding up two prices. Interpret her calculator display as pounds and pence.



£42.90

- 5) Sketch a plan of this drum. The square faces have edge length 3cm. The top of the drum is a regular polygon.



Week 12: Day 5

- 1) Which average is best to compare these data sets?

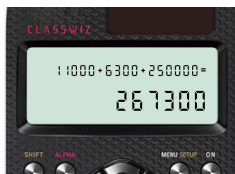
Set A: 8, 8, 8, 10

Set B: 2, 2, 4, 4, 4, 8, 31

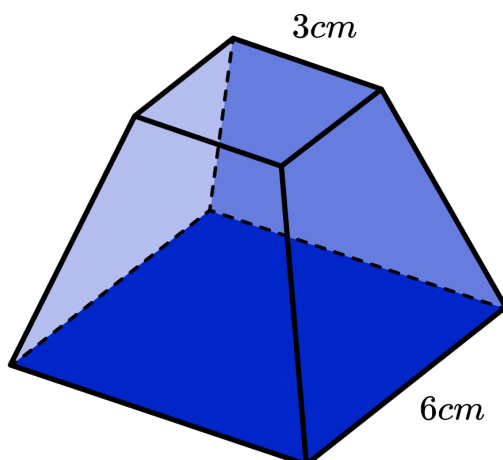
- 2) Shirts cost £12.50 each. How many shirts can be bought with £100?

- 3) A cube's surface area is 54cm^2 . What is the cube's volume?

- 4) Express this calculator display in standard form.



- 5) Sketch the plan of this truncated square based pyramid.



Week 12: Day 5 Answers

- 1) Which average is best to compare these data sets?

Set A: 8, 8, 8, 10

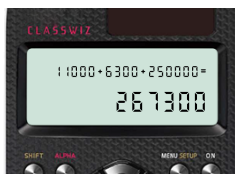
Set B: 2, 2, 4, 4, 4, 8, 31 **Mode**

- 2) Shirts cost £12.50 each. How many shirts can be bought with £100?

8

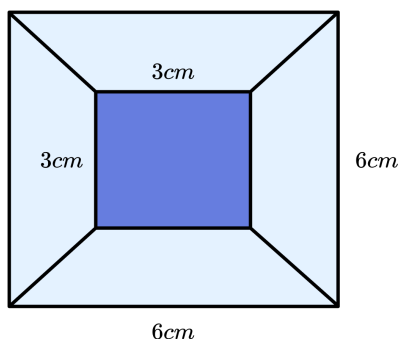
- 3) A cube's surface area is 54cm^2 . What is the cube's volume? **27cm^3**

- 4) Express this calculator display in standard form.



2.673×10^5

- 5) Sketch the plan of this truncated square based pyramid.



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