

CRAFT

Show All Your Working Out

Re-Teach

1.
Find the mode, median, mean and range of this set of numbers: 5, 7, 3, 8, 5, 2
2.
Find the mode, median, mean and range of this set of numbers: 12, 15, 11, 12, 18, 15, 15
3.
Find the mode, median, mean and range of this set of numbers: 4, 9, 4, 1, 6, 4, 2
4.
Find the mode, median, mean and range of this set of numbers: 20, 25, 30, 20, 35
5.
Find the mode, median, mean and range of this set of numbers: 6, 2, 8, 2, 5, 2, 7, 1

Consolidate

1.
A rectangle has a length of 12 cm and a width of 8 cm. Calculate its area.
2.
A triangle has a base of 10 m and a perpendicular height of 6 m. Calculate its area.
3.
A parallelogram has a base of 15 mm and a vertical height of 9 mm. Calculate its area.
4.
A trapezium has parallel sides of length 5 cm and 9 cm, and a height of 4 cm. Calculate its area.
5.
A circle has a radius of 7 cm. Calculate its area, giving your answer in terms of π .

Master

1.
A composite shape is made by joining a rectangle (10 m by 4 m) and a right-angled triangle (base 4 m, height 3 m) along the rectangle's longer side. Calculate the total area of the shape.
2.
The mean of five numbers is 12. Four of the numbers are 8, 15, 11 and 14. What is the fifth number?
3.
A gardener is laying a circular lawn with a diameter of 6 metres. A bag of grass seed covers 5 m^2 . How many bags does the gardener need to buy?
4.
A running track consists of a rectangle 100 m by 64 m, with a semicircle of radius 32 m on each end. Calculate the total area enclosed by the track.
5.
The mean weight of 6 people is 72 kg. When a seventh person joins, the mean weight becomes 74 kg. What is the weight of the seventh person?

Answers

Re-Teach Answers

1.

Mode = 5 (appears twice). Ordered list: 2, 3, 5, 5, 7, 8. Median = $(5+5)/2 = 5$. Mean = $(2+3+5+5+7+8)/6 = 30/6 = 5$. Range = $8 - 2 = 6$.

2.

Mode = 15 (appears three times). Ordered list: 11, 12, 12, 15, 15, 15, 18. Median = 15. Mean = $(11+12+12+15+15+15+18)/7 = 98/7 = 14$. Range = $18 - 11 = 7$.

3.

Mode = 4 (appears three times). Ordered list: 1, 2, 4, 4, 4, 6, 9. Median = 4. Mean = $(1+2+4+4+4+6+9)/7 = 30/7 \approx 4.29$. Range = $9 - 1 = 8$.

4.

Mode = 20 (appears twice). Ordered list: 20, 20, 25, 30, 35. Median = 25. Mean = $(20+20+25+30+35)/5 = 130/5 = 26$. Range = $35 - 20 = 15$.

5.

Mode = 2 (appears three times). Ordered list: 1, 2, 2, 2, 5, 6, 7, 8. Median = $(2+5)/2 = 3.5$. Mean = $(1+2+2+2+5+6+7+8)/8 = 33/8 = 4.125$. Range = $8 - 1 = 7$.

Consolidate Answers

1.

Area of a rectangle = length \times width. Area = $12 \text{ cm} \times 8 \text{ cm} = 96 \text{ cm}^2$.

2.

Area of a triangle = $\frac{1}{2} \times \text{base} \times \text{height}$. Area = $\frac{1}{2} \times 10 \text{ m} \times 6 \text{ m} = 30 \text{ m}^2$.

3.

Area of a parallelogram = base \times height. Area = $15 \text{ mm} \times 9 \text{ mm} = 135 \text{ mm}^2$.

4.

Area of a trapezium = $\frac{1}{2} \times (a + b) \times h$. Area = $\frac{1}{2} \times (5 \text{ cm} + 9 \text{ cm}) \times 4 \text{ cm} = \frac{1}{2} \times 14 \text{ cm} \times 4 \text{ cm} = 28 \text{ cm}^2$.

5.

Area of a circle = πr^2 . Area = $\pi \times (7 \text{ cm})^2 = 49\pi \text{ cm}^2$.

Master Answers

1.

Area of rectangle = $10 \text{ m} \times 4 \text{ m} = 40 \text{ m}^2$.
Area of triangle = $\frac{1}{2} \times 4 \text{ m} \times 3 \text{ m} = 6 \text{ m}^2$.
Total area = $40 \text{ m}^2 + 6 \text{ m}^2 = 46 \text{ m}^2$.

2.

Let the fifth number be x . $(8 + 15 + 11 + 14 + x) / 5 = 12$. $(48 + x) / 5 = 12$. $48 + x = 60$.
 $x = 60 - 48 = 12$. The fifth number is 12.

3.

Radius = diameter $/ 2 = 6 \text{ m} / 2 = 3 \text{ m}$.
Area of lawn = $\pi r^2 = \pi \times (3 \text{ m})^2 = 9\pi \text{ m}^2 \approx 28.27 \text{ m}^2$. Number of bags needed = $28.27 / 5 \approx 5.654$. The gardener must buy whole bags, so 6 bags are needed.

4.

Area of central rectangle = $100 \text{ m} \times 64 \text{ m} = 6400 \text{ m}^2$. The two semicircles form one full circle. Area of circle = $\pi r^2 = \pi \times (32 \text{ m})^2 = 1024\pi \text{ m}^2 \approx 3216.99 \text{ m}^2$. Total area $\approx 6400 \text{ m}^2 + 3216.99 \text{ m}^2 = 9616.99 \text{ m}^2$.

5.

Total weight of first 6 people = $6 \times 72 \text{ kg} = 432 \text{ kg}$. Total weight of all 7 people = $7 \times 74 \text{ kg} = 518 \text{ kg}$. Weight of seventh person = $518 \text{ kg} - 432 \text{ kg} = 86 \text{ kg}$.