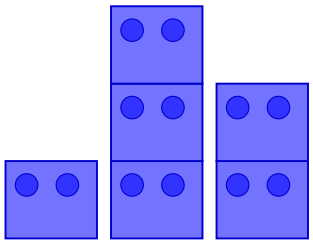
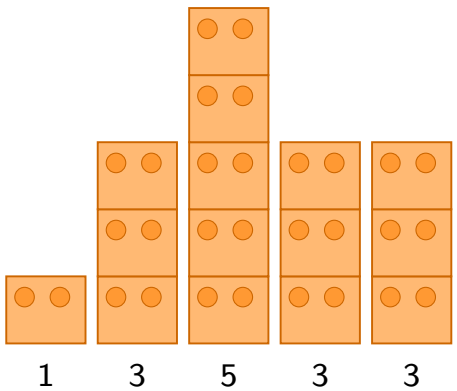
Averages: Mean & Median

Starter



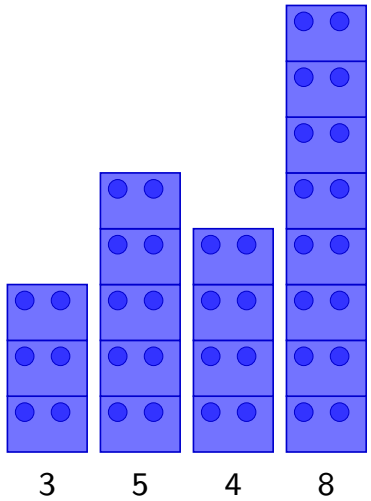
Q7: balance these



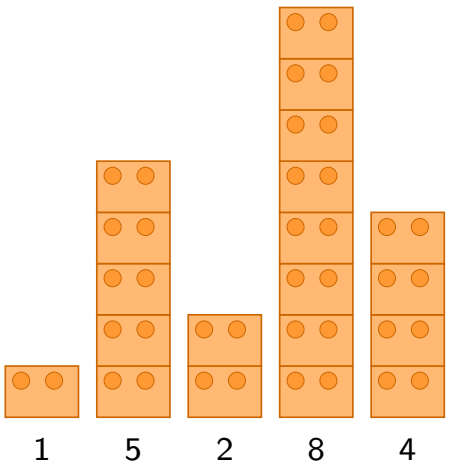
Q8: balance these

1. $12 \div 4 = ?$
2. $18 \div 3 = ?$
3. $15 \div 3 = ?$
4. $28 \div 4 = ?$
5. Four friends share 20 sweets equally. How many do they each get?
6. Three children have 2, 5 and 8 stickers. They combine them and share them equally. How many does each child get?
7. Six children have 3, 5, 3, 7, 5, 7 stickers. *Estimate* the fair share, then calculate. How close were you?
8. Draw a picture of the top towers (left), balanced to the same height without changing the total number of bricks.
9. Draw a picture of the bottom towers (left), balanced to the same height without changing the total number of bricks.

Starter



Q7: balance these



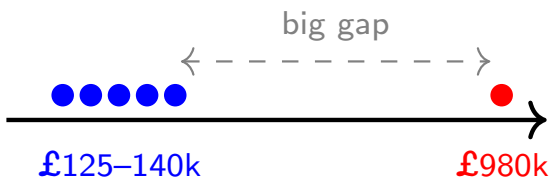
Q8: balance these?

1. $7 \times 8 = ?$
2. $63 \div 7 = ?$
3. $48 \div 8 = ?$
4. $5 \times 9 = ?$
5. Five children have 4, 7, 3, 6, 5 marbles. Shared equally, how many each?
6. Six friends earn £8, £14, £10, £6, £12, £10 at a car wash. Split fairly — how much each?
7. Eight runners finish in 54, 48, 61, 57, 50, 63, 55, 52 s. Without doing any calculations, estimate the average time.
8. What heights would the top towers balance out to?
9. What heights would the bottom towers balance out to?

Starter

1. $3 + 4 + 7 = ?$
2. $15 + 27 + 18 = ?$
3. $60 \div 4 = ?$
4. $-15 \div 3 = ?$
5. What is the mean of: $4,\ 6,\ 2,\ 8$
6. What is the mean of: $3,\ 9,\ 5,\ 7,\ 1$
7. What is the mean of: $-3,\ 5,\ -1,\ 7,\ 2$
8. What is the mean of: $-8,\ -2,\ -5,\ -1,\ -4$
9. The mean of four numbers is 9. Three are 6, 11 and 8. Find the fourth.
10. The mean of $3,\ 7,\ x,\ 10$ is 8. What is x?

Starter 4



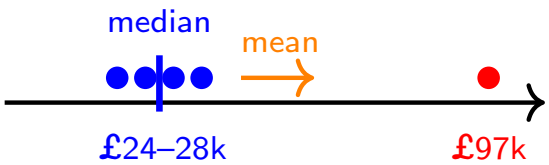
Q10: house prices on a road

1. $4 + 2 + 10 = ?$
2. $-4 + 9 = ?$
3. $-3 - 5 = ?$
4. $6 \times 4 = ?$

5. Order smallest to largest: $8, 3, 11, 5, 7$. Which is the middle value?
6. Order: $21, 14, 9, 35, 17, 28, 6$. Which is the middle value?
7. For $3, 7, 8, 9, 41$: *estimate* whether the middle value is above or below the mean. Then check.
8. What is the middle value of:
   $-7,\ -2,\ -5,\ 1,\ -1,\ 3,\ -3$
9. What is the middle value of: $\frac{1}{2},\ \frac{1}{4},\ \frac{3}{4},\ \frac{1}{8},\ \frac{5}{8}$
10. House prices on a road are: £130k, £125k, £140k, £128k, £135k, £980k.

    Why might the mean not be helpful?

Starter



Mean is pulled by outliers

1. $-6 + (-2) = ?$ 2. $\frac{1}{3} + \frac{1}{2} = ?$
3. Median of: 3, 9, 4, 7, 1
4. Mean **and** median of: 5, 8, 3, 12, 7. Which is larger?
5. Five salaries are: £24k, £26k, £25k, £28k, £97k. Would you prefer to use the mean or the median to find the average?
6. For $-10, -1, 0, 2, 3$: *estimate* whether the mean is positive or negative. Then calculate both mean and median.
7. Find the mean and median of:
   $-6,\ -2,\ 4,\ -3,\ 7,\ 0$
8. What is the median of: $\frac{1}{3},\ \frac{3}{4},\ \frac{1}{2},\ \frac{1}{6},\ \frac{2}{3},\ \frac{1}{4}$
9. True or False?
   (a) The median is always one of the values in the dataset.
   (b) The mean and median are always different.
   (c) A very large outlier affects the median more than the mean.