Quartiles and Percentiles

A **median** splits the data range in **half**:

```
| ← Lower half of the data → | Median | ← Upper half of the data → |
```

**Quartiles** split the data range into **quarters**:

```
| ← Lower quarter of the data → | ← Second quarter of the data → | ← Third quarter of the data → | ← Upper quarter of the data → |
```

**Percentiles** split the data range into **hundredths**:

```
| Lower 10% of the data | Second 10% of the data | Third 10% of the data | Fourth 10% of the data | Fifth 10% of the data | Sixth 10% of the data | Seventh 10% of the data | Eighth 10% of the data | Ninth 10% of the data | Upper 10% of the data |
```

For example, if the weight of a baby is on the 30th percentile it means the baby is heavier than 30% of babies that age, but lighter than 70% of babies that age.

*Use the chart opposite to answer the following questions:*

1. What is the median weight of a 6 month old baby boy?

2. How heavy would a 3 month old baby boy need to be to be in the top 9%?

3. A 2 month old baby boy weighs 6kg. What percentage of babies are heavier than him?

4. Many baby car seats are only fit for babies up to 9kg. What percentage of baby boys will need a new car seat by the time they are 19 weeks old?

5. What is the chance of a 3 month old baby boy weighing more than an average 5 month old baby boy?
A median splits the data range in half:

| ← Lower half of the data → | Median | ← Upper half of the data → |

Quartiles split the data range into quarters:

| ← Lower quartile → | Median | ← Upper quartile → |
| ← Lower quarter of the data → | ← Second quarter of the data → | ← Third quarter of the data → |
| ← Lower 10% of the data → | ← Second 10% of the data → | ← Third 10% of the data → |

Percentiles split the data range into hundredths:

| 10th percentile | 50th percentile (median) | 90th percentile |
| Lower 10% of the data | Second 10% of the data | Third 10% of the data |
| Fourth 10% of the data | Fifth 10% of the data | Sixth 10% of the data |
| Seventh 10% of the data | Eighth 10% of the data | Ninth 10% of the data |
| Upper 10% of the data |

For example, if the weight of a baby is on the 30th percentile it means the baby is heavier than 30% of babies that age, but lighter than 70% of babies that age.

Use the chart opposite to answer the following questions:

1. What is the median weight of a 6 month old baby boy?
   7.9kg or 8kg

2. How heavy would a 3 month old baby boy need to be to be in the top 9%?
   7.4kg or 7.5kg

3. A 2 month old baby boy weighs 6kg. What percentage of babies are heavier than him?
   25%

4. Many baby car seats are only fit for babies up to 9kg. What percentage of baby boys will need a new car seat by the time they are 19 weeks old?
   2%

5. What is the chance of a 3 month old baby boy weighing more than an average 5 month old baby boy?
   9%