

Using mental strategies

Circle the adjoining pairs of numbers that add up to 20. There could be more than one pair in each row.

1	15	3	12	4	5	13	7	8	14	3	19	10
2	9	10	6	4	12	1	5	11	4	17	3	8
3	1	19	5	12	3	18	2	7	16	5	2	13
4	3	17	2	11	6	5	0	16	4	12	9	6
5	9	11	7	9	0	14	12	4	18	14	3	8
6	18	1	12	8	2	8	7	13	8	15	4	12
7	7	6	14	5	9	10	13	5	15	9	13	8

Circle the adjoining sets of three numbers that add up to 20. There could be more than one pair in each row.

8	10	3	1	4	15	13	7	8	12	7	2	14
9	17	10	6	4	19	1	3	12	5	12	3	8
10	4	12	5	18	3	1	2	17	16	5	8	11
11	11	16	7	8	9	3	0	11	4	12	7	5
12	6	11	4	9	13	16	12	4	2	9	7	4
13	8	3	9	13	7	19	10	16	8	1	11	13
14	1	2	3	13	17	6	7	7	9	19	13	8
15	9	10	3	7	19	2	7	3	11	6	4	8

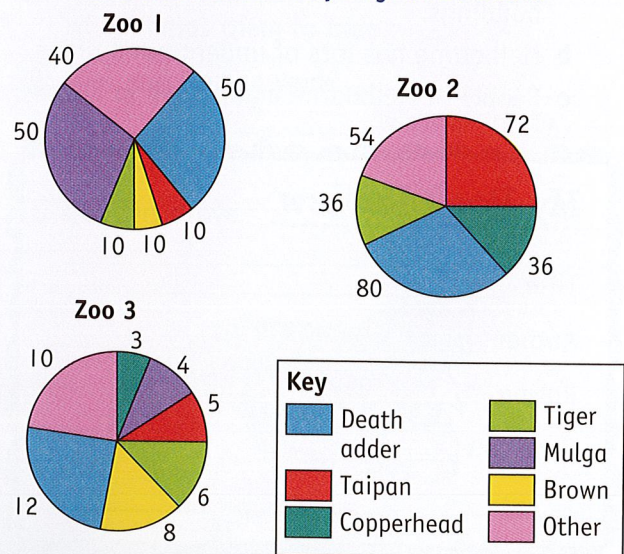
Score 2 points for each correct answer!

SCORE /30 0-12 14-24 26-30

Statistics & Probability

Pie charts

These pie charts show the type and quantity of Australian snakes kept by three zoos.

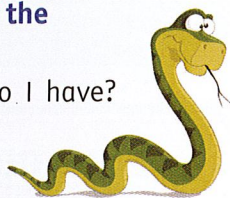


Use the pie charts to answer the following questions.

- How many snakes does Zoo 1 have? \_\_\_\_\_
- How many snakes do Zoos 2 and 3 have, combined? \_\_\_\_\_
- In total, how many **taipans** are there? \_\_\_\_\_
- Which snakes do Zoos 1 and 3 have that Zoo 2 doesn't? \_\_\_\_\_
- Which snake do Zoos 2 and 3 have that Zoo 1 doesn't? \_\_\_\_\_
- Judging by the appearance of the pie chart, what fraction of Zoo 3's collection is made up of **death adders**? Estimate your answer. \_\_\_\_\_
- Judging by the appearance of the pie chart, do the **other** and the **death adder** make up **more**, **less** or **half** of Zoo 1's collection? \_\_\_\_\_
- Judging by the appearance of the pie chart, about what fraction of Zoo 2's collection do the **other**, **tiger**, **death adder** and **copperhead** make up? \_\_\_\_\_
- In Zoo 3's collection, the number of which three snakes combined equals the number of **death adders**? \_\_\_\_\_
- In Zoo 2's collection, the number of which two snakes combined is equal to the number of another of its snakes? \_\_\_\_\_
- Is the combined number of **tiger**, **brown** and **taipan** snakes held by Zoo 1 equal to 25% of its collection? Answer **yes** or **no**. \_\_\_\_\_
- What percentage of Zoo 3's collection is the **death adder**? \_\_\_\_\_

Score 2 points for each correct answer!

SCORE /24 0-10 12-18 20-24



Measurement & Geometry

Relating volume and capacity

Complete these conversion examples between capacity and volume. Use a calculator.

Note: 1 millilitre = 1 cubic centimetre  
1 litre = 1 000 cubic centimetres

Capacity	=	Volume
1	=	1 005 cm <sup>3</sup>
3.75 L	=	2
3	=	2.35 m <sup>3</sup>
4	=	8750 cm <sup>3</sup>
0.009 87 mL	=	5
6006 L	=	6
7	=	170.3 mm <sup>3</sup>
8	=	80.706 cm <sup>3</sup>
0.102 L	=	9
10	=	3.9912 m <sup>3</sup>
11	=	0.03684 m <sup>3</sup>
0.0528 mL	=	12
13	=	456 071.2 mm <sup>3</sup>
127.035 L	=	14
0.003 mL	=	15

Score 2 points for each correct answer!

SCORE /30 0-12 14-24 26-30

Problem Solving

Do not use a calculator to answer the following questions.

- If you subtract the secret number from 20 and from 14, the two answers added together will equal 8. What is the secret number? \_\_\_\_\_
- If you subtract the secret number from 8, 5 and 11, the three answers added together will equal 15. What is the secret number? \_\_\_\_\_

- If you subtract the secret number from 17, 11 and 13, the three answers added together will equal 11. What is the secret number? \_\_\_\_\_
- If you add the secret number to 4 and 12 and then add the answers together, you get 32. What is the secret number? \_\_\_\_\_
- If you add the secret number to 15 and 30 and then add the answers together, you get 55. What is the secret number? \_\_\_\_\_
- If you add the secret number to 20 and 40, then add the answers and then halve them, you get 40. What is the secret number? \_\_\_\_\_



You may use a calculator to work out these problems.

- A man had 80 litres of fuel in his car at the start of his trip. At the end, he had only half left. How much fuel did he have left? Answer in cubic metres. \_\_\_\_\_
- A woman had 92 litres of fuel in her car at the start of her trip. She used three quarters of it and then bought enough petrol to double what she had. How much fuel did she have then? Answer in cubic metres. \_\_\_\_\_
- A service station was down to a seventh of its fuel storage when there was a rush of motorists purchasing fuel and it sold half of what it had left. If it had 0.098 m<sup>3</sup> left now, how much can its fuel storage hold? Answer in litres. \_\_\_\_\_