6.6 Pie Charts: Test Pack

Calculators not allowed · about 60 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A class of 30 pupils choose their favourite fruit. 10 choose apples, 6 choose bananas, 8 choose oranges and 6 choose grapes. Calculate the angle, in degrees, for the sector representing apples in a pie chart.

(1)

2 A pie chart for favourite school clubs has three sectors: 120 degrees, 150 degrees and the rest. If 96 pupils were surveyed, how many pupils correspond to the smallest sector (the rest)?

(2)

3 A survey of 60 pupils records favourite school activities. 15 pupils chose music. What angle, in degrees, should be used for the music sector in a pie chart for these 60 pupils?

(1)

4 A bar chart shows the number of pupils in a class who own each type of pet: dogs 24, cats 11, fish 15, rabbits 5, hamsters 27.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(2)

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5 A bar chart shows the number of pupils in a class who own each type of pet: dogs 25, cats 29, fish 9, rabbits 8, hamsters 15.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(2)

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6 A bar chart shows the number of pupils in a class who own each type of pet: dogs 11, cats 27, fish 21, rabbits 4, hamsters 17.
Work out the mean number of pupils per pet type.

(3)

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7 Complete: A full circle is 360 degrees. What fraction of the circle is represented by a sector of 72 degrees? Give your answer in simplest form.

(1)

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8 Pie chart 1 shows the favourite sport of 240 pupils in Town X; the angle for football is 90°. Pie chart 2 shows the favourite sport of 60 pupils in Year 8; the angle for football is 60°.
Work out which group has more pupils who like football.

(3)

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9 40 pupils chose a favourite sport: netball 20, swimming 6, tennis 14. Work out the three angles needed to draw a pie chart.

(3)

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10 A pie chart shows how 60 pupils travel to school. The angle for bus is 150° and the angle for cycle is 40°. The only other method is car. Work out the angle for car.

(2)

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11 A bar chart shows the number of pupils in a class who own each type of pet: dogs 16, cats 5, fish 4, rabbits 3, hamsters 3.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(2)

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12 A bar chart shows the number of pupils in a class who own each type of pet: dogs 4, cats 17, fish 26, rabbits 16, hamsters 16.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(2)

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13 A bar chart shows the number of pupils in a class who own each type of pet: dogs 3, cats 24, fish 17, rabbits 11, hamsters 14.
Work out the mean number of pupils per pet type.

(3)

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14 A pie chart divides favourite pets into four equal sectors. How many degrees is each sector?

(1)

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15 Pie chart 1 shows the favourite sport of 240 pupils in Year 8; the angle for football is 90°.
Pie chart 2 shows the favourite sport of 120 pupils in Year 7; the angle for football is 45°.
Work out which group has more pupils who like football.

(3)

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16 A pie chart shows how 30 pupils travel to school. The angle for train is 180°. How many pupils travel by train?

(2)

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17 A class of 24 pupils were asked their favourite season. Winter 8 pupils, Spring 4 pupils, Summer 6 pupils, Autumn 6 pupils. What is the angle for the Summer sector?

(1)

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18 Pie chart 1 shows the favourite sport of 60 pupils in Year 7; the angle for football is 90°.
Pie chart 2 shows the favourite sport of 180 pupils in Class A; the angle for football is 120°.
Work out which group has more pupils who like football.

(3)

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19 A pie chart shows how 24 pupils travel to school. The angle for bus is 90°. How many pupils travel by bus?

(2)

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20 30 pupils were asked to choose their favourite sport. 10 chose athletics. Work out the angle for athletics in a pie chart.

(2)

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21 A bar chart shows the number of pupils in a class who own each type of pet: dogs 28, cats 21, fish 26, rabbits 27, hamsters 7.
Work out the mean number of pupils per pet type.

(3)

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22 A school has 180 students. A pie chart showing favourite school subject has a sector of 144 degrees for Maths. How many students chose Maths?

(2)

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Mark scheme · 6.6 Pie Charts: Test Pack

Question 1

120 degrees cao	B1

Answer: **120 degrees**

Question 2

finds remaining angle 360 - 120 - 150 = 90 and uses 90/360 × 96	M1
24 cao	A1

Answer: **24**

Question 3

90 degrees cao	B1

Answer: **90 degrees**

Question 4

mode = hamsters	B1
27/82	B1

Answer: **hamsters, 27/82**

Question 5

mode = cats	B1
29/86	B1

Answer: **cats, 29/86**

Question 6

adds the five values	M1
80 ÷ 5	M1
16 cao	A1

Answer: **16**

Question 7

1/5 cao	B1

Answer: **1/5**

Question 8

90/360 x 240 = 60	M1
60/360 x 60 = 10	M1
Town X	A1

Answer: **Town X**

Question 9

360 ÷ 40 = 9 degrees per pupil	M1
two angles correct	A1
180°, 54°, 126° cao	A1

Answer: **180°, 54°, 126°**

Question 10

360 - 150 - 40	M1
170° cao	A1

Answer: **170°**

Question 11

mode = dogs	B1
16/31	B1

Answer: **dogs, 16/31**

Question 12

mode = fish	B1
26/79	B1

Answer: **fish, 26/79**

Question 13

adds the five values	M1
69 ÷ 5	M1
13.8 cao	A1

Answer: **13.8**

Question 14

90 degrees cao	B1

Answer: **90 degrees**

Question 15

90/360 x 240 = 60	M1
45/360 x 120 = 15	M1
Year 8	A1

Answer: **Year 8**

Question 16

180/360 x 30	M1
15 cao	A1

Answer: **15**

Question 17

90 degrees cao	B1

Answer: **90 degrees**

Question 18

90/360 x 60 = 15	M1
120/360 x 180 = 60	M1
Class A	A1

Answer: **Class A**

Question 19

90/360 x 24	M1
6 cao	A1

Answer: **6**

Question 20

360 ÷ 30 = 12 per pupil or 10/30 x 360	M1
120° cao	A1

Answer: **120°**

Question 21

adds the five values	M1
109 ÷ 5	M1
21.8 cao	A1

Answer: **21.8**

Question 22

uses 144/360 × 180 or equivalent method	M1
72 cao	A1

Answer: **72**

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