6.6 Pie Charts: 2-hour Pack

Calculators not allowed · about 120 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A bar chart shows the number of pupils in a class who own each type of pet: dogs 17, cats 9, fish 15, rabbits 9, hamsters 7.
Work out the mean number of pupils per pet type.

(3)

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2 A pie chart shows how 48 pupils travel to school. The angle for train is 150° and the angle for cycle is 60°. How many more pupils travel by train than by cycle?

(3)

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3 36 pupils were asked to choose their favourite sport. 14 chose football. Work out the angle for football in a pie chart.

(2)

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4 A bar chart shows the number of pupils in a class who own each type of pet: dogs 10, cats 20, fish 9, rabbits 25, hamsters 30.
Work out the total number of pets owned.

(2)

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5 72 pupils chose a favourite sport: athletics 11, hockey 20, tennis 41. Work out the three angles needed to draw a pie chart.

(3)

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6 A pie chart shows how 180 pupils travel to school. The angle for train is 150° and the angle for bus is 80°. How many more pupils travel by train than by bus?

(3)

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7 A bar chart shows the number of pupils in a class who own each type of pet: dogs 30, cats 25, fish 22, rabbits 4, hamsters 5.
How many more pupils own dogs than fish?

(2)

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8 A bar chart shows the number of pupils in a class who own each type of pet: dogs 28, cats 4, fish 23, rabbits 15, hamsters 12.
Which type of pet is the mode, and what fraction of all the pets is it? Give the fraction in its simplest form.

(3)

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9 A pie chart shows how 36 pupils travel to school. The angle for train is 150°. How many pupils travel by train?

(2)

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10 120 pupils were asked to choose their favourite sport. 58 chose hockey. Work out the angle for hockey in a pie chart.

(2)

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11 Pie chart 1 shows the favourite sport of 180 pupils in Class A; the angle for football is 150°. Pie chart 2 shows the favourite sport of 120 pupils in Year 7; the angle for football is 60°.
Work out which group has more pupils who like football.

(3)

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12 In a pie chart of the favourite sports of 30 pupils, the sector for tennis has an angle of 144°. How many pupils chose tennis?

(2)

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13 20 pupils were asked to choose their favourite sport. 5 chose tennis. Work out the angle for tennis in a pie chart.

(2)

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14 A pie chart shows how 30 pupils travel to school. The angle for train is 120°. How many pupils travel by train?

(2)

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15 Pie chart 1 shows the favourite sport of 240 pupils in Class A; the angle for football is 120°. Pie chart 2 shows the favourite sport of 90 pupils in Class B; the angle for football is 60°.
Work out which group has more pupils who like football.

(3)

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16 A pie chart shows how 40 pupils travel to school. The angle for bus is 90° and the angle for car is 40°. The only other method is cycle. Work out the angle for cycle.

(2)

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17 A bar chart shows the number of pupils in a class who own each type of pet: dogs 13, cats 20, fish 17, rabbits 29, hamsters 25.
Work out the mean number of pupils per pet type.

(3)

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18 180 pupils were asked to choose their favourite sport. 90 chose hockey. Work out the angle for hockey in a pie chart.

(2)

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19 60 pupils chose a favourite sport: tennis 6, netball 18, athletics 36. Work out the three angles needed to draw a pie chart.

(3)

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20 36 pupils were asked to choose their favourite sport. 17 chose hockey. Work out the angle for hockey in a pie chart.

(2)

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21 Pie chart 1 shows the favourite sport of 240 pupils in Year 8; the angle for football is 150°. Pie chart 2 shows the favourite sport of 240 pupils in Town Y; the angle for football is 45°.
Work out which group has more pupils who like football.

(3)

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22 A pie chart shows how 60 pupils travel to school. The angle for walk is 30°. How many pupils travel by walk?

(2)

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23 180 pupils were asked to choose their favourite sport. 14 chose athletics. Work out the angle for athletics in a pie chart.

(2)

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24 A bar chart shows the number of pupils in a class who own each type of pet: dogs 17, cats 8, fish 21, rabbits 24, hamsters 4.
Work out the mean number of pupils per pet type.

(3)

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25 Pie chart 1 shows the favourite sport of 120 pupils in Year 7; the angle for football is 135°. Pie chart 2 shows the favourite sport of 60 pupils in Year 8; the angle for football is 120°.
Work out which group has more pupils who like football.

(3)

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26 In a pie chart of the favourite sports of 120 pupils, the sector for tennis has an angle of 66°. How many pupils chose tennis?

(2)

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27 Pie chart 1 shows the favourite sport of 240 pupils in Class B; the angle for football is 60°. Pie chart 2 shows the favourite sport of 90 pupils in Town Y; the angle for football is 120°.
Work out which group has more pupils who like football.

(3)

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28 In a pie chart of the favourite sports of 45 pupils, the sector for athletics has an angle of 64°. How many pupils chose athletics?

(2)

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29 A pie chart shows how 40 pupils travel to school. The angle for bus is 180° and the angle for car is 120°. The only other method is walk. Work out the angle for walk.

(2)

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30 A pie chart shows how 45 pupils travel to school. The angle for bus is 160° and the angle for cycle is 80°. The only other method is train. Work out the angle for train.

(2)

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31 A bar chart shows the number of pupils in a class who own each type of pet: dogs 29, cats 18, fish 18, rabbits 27, hamsters 28.
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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32 In a pie chart of the favourite sports of 180 pupils, the sector for netball has an angle of 46°. How many pupils chose netball?

(2)

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33 A bar chart shows the number of pupils in a class who own each type of pet: dogs 18, cats 9, fish 4, rabbits 23, hamsters 9.
Work out the total number of pets owned.

(2)

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34 A pie chart shows how 90 pupils travel to school. The angle for cycle is 80°. How many pupils travel by cycle?

(2)

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35 A pie chart shows how 48 pupils travel to school. The angle for cycle is 30° and the angle for car is 120°. The only other method is bus. Work out the angle for bus.

(2)

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36 A bar chart shows the number of pupils in a class who own each type of pet: dogs 17, cats 19, fish 14, rabbits 27, hamsters 6.
Work out the mean number of pupils per pet type.

(3)

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37 40 pupils were asked to choose their favourite sport. 3 chose swimming. Work out the angle for swimming in a pie chart.

(2)

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38 A pie chart shows how 45 pupils get to school. The angle for walking is 128°. What percentage walk? Give your answer to the nearest whole number if needed.

(2)

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39 A pie chart shows how 120 pupils travel to school. The angle for bus is 180°. How many pupils travel by bus?

(2)

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Mark scheme · 6.6 Pie Charts: 2-hour Pack

Question 1

adds the five values	M1
57 ÷ 5	M1
11.4 cao	A1

Answer: **11.4**

Question 2

48 ÷ 360 per degree or 5/12 x 48	M1
both numbers of pupils found: 20 and 8	M1
12 cao	A1

Answer: **12**

Question 3

360 ÷ 36 = 10 per pupil or 14/36 x 360	M1
140° cao	A1

Answer: **140°**

Question 4

adds the five values	M1
94 cao	A1

Answer: **94**

Question 5

360 ÷ 72 = 5 degrees per pupil	M1
two angles correct	A1
55°, 100°, 205° cao	A1

Answer: **55°, 100°, 205°**

Question 6

180 ÷ 360 per degree or 5/12 x 180	M1
both numbers of pupils found: 75 and 40	M1
35 cao	A1

Answer: **35**

Question 7

30 - 22 (or the reverse)	M1
8 cao	A1

Answer: **8**

Question 8

mode = dogs	B1
28/82	M1
14/41	A1

Answer: **dogs, 14/41**

Question 9

150/360 x 36	M1
15 cao	A1

Answer: **15**

Question 10

360 ÷ 120 = 3 per pupil or 58/120 x 360	M1
174° cao	A1

Answer: **174°**

Question 11

150/360 x 180 = 75	M1
60/360 x 120 = 20	M1
Class A	A1

Answer: **Class A**

Question 12

144/360 x 30	M1
12 cao	A1

Answer: **12**

Question 13

360 ÷ 20 = 18 per pupil or 5/20 x 360	M1
90° cao	A1

Answer: **90°**

Question 14

120/360 x 30	M1
10 cao	A1

Answer: **10**

Question 15

120/360 x 240 = 80	M1
60/360 x 90 = 15	M1
Class A	A1

Answer: **Class A**

Question 16

360 - 90 - 40	M1
230° cao	A1

Answer: **230°**

Question 17

adds the five values	M1
104 ÷ 5	M1
20.8 cao	A1

Answer: **20.8**

Question 18

360 ÷ 180 = 2 per pupil or 90/180 x 360	M1
180° cao	A1

Answer: **180°**

Question 19

360 ÷ 60 = 6 degrees per pupil	M1
two angles correct	A1
36°, 108°, 216° cao	A1

Answer: **36°, 108°, 216°**

Question 20

360 ÷ 36 = 10 per pupil or 17/36 x 360	M1
170° cao	A1

Answer: **170°**

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Question 21

150/360 x 240 = 100	M1
45/360 x 240 = 30	M1
Year 8	A1

Answer: **Year 8**

Question 22

30/360 x 60	M1
5 cao	A1

Answer: **5**

Question 23

360 ÷ 180 = 2 per pupil or 14/180 x 360	M1
28° cao	A1

Answer: **28°**

Question 24

adds the five values	M1
74 ÷ 5	M1
14.8 cao	A1

Answer: **14.8**

Question 25

135/360 x 120 = 45	M1
120/360 x 60 = 20	M1
Year 7	A1

Answer: **Year 7**

Question 26

66/360 x 120	M1
22 cao	A1

Answer: **22**

Question 27

60/360 x 240 = 40	M1
120/360 x 90 = 30	M1
Class B	A1

Answer: **Class B**

Question 28

64/360 x 45	M1
8 cao	A1

Answer: **8**

Question 29

360 - 180 - 120	M1
60° cao	A1

Answer: **60°**

Question 30

360 - 160 - 80	M1
120° cao	A1

Answer: **120°**

Question 31

mode = dogs	B1
29/120	B1

Answer: **dogs, 29/120**

Question 32

46/360 x 180	M1
23 cao	A1

Answer: **23**

Question 33

adds the five values	M1
63 cao	A1

Answer: **63**

Question 34

80/360 x 90	M1
20 cao	A1

Answer: **20**

Question 35

360 - 30 - 120	M1
210° cao	A1

Answer: **210°**

Question 36

adds the five values	M1
83 ÷ 5	M1
16.6 cao	A1

Answer: **16.6**

Question 37

360 ÷ 40 = 9 per pupil or 3/40 x 360	M1
27° cao	A1

Answer: **27°**

Question 38

128/360	M1
36% cao	A1

Answer: **36%**

Question 39

180/360 x 120	M1
60 cao	A1

Answer: **60**

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