

Functional Skills Maths

Level 1

Diagnostic Assessment

v1.0

Best Practice

This is a diagnostic assessment, not a test. A test measures what you do know, whereas this set of questions will attempt to gauge what you do not know in order that your tutor can better assist you with your learning.

Please try and answer all questions, but do not guess. If you fluke a correct answer your tutor may think you understand the topic it refers to, when in truth you need to learn it.

Equipment you will need:

A ruler, pen, pencil and extra paper for workings out, attaching any extra paper used to your answer sheet as this may help your tutor.

You may use a calculator for questions 9, 18 & 19 only.

- 1) You are changing your energy supplier and need to read your gas and electric meters.

The gas meter reading is:



Select this reading from the options below.

Three thousand, two hundred and sixty five

Twenty three thousand, six hundred and fifty one

Thirty two thousand, six hundred and fifteen

Thirty two thousand, six hundred and fifty one

- 2) The electricity meter reading is:



Select this reading from the options below.





Ninety four thousand, seven hundred and forty nine

Forty nine thousand, seven hundred and ninety four

Ninety four thousand, nine hundred and seventy four

Ninety four thousand, seven hundred and ninety four

- 3) The table below shows the average temperature in January in the following cities.

 City	 Temperature 
Copenhagen	0
London	7
Toronto	-8
Washington DC	4
Munich	-1 

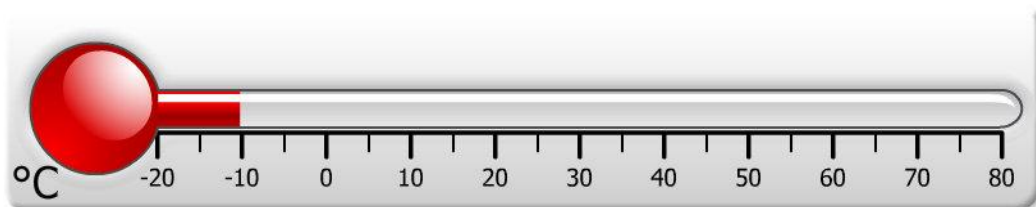
Which city has the highest temperature?

Copenhagen / London / Toronto / Washington DC / Munich

- 4) Which city has the lowest temperature?

Copenhagen / London / Toronto / Washington DC / Munich

- 5) Tom works in the cold food department in a supermarket.



The thermometer shows the temperature of one of the freezers. The freezer should be working at -18°C .

The temperature should _____ (increase / decrease) by ____ $^{\circ}\text{C}$.

- 6) Tom is putting cartons of ice-cream in one of the freezers. There are 13 boxes and each box contains 24 cartons. How many cartons of ice-cream are there in total?
- 7) He then unpacked 192 packs of frozen peas from 8 boxes. How many packs of frozen peas were there in each box?
- 8) Tom supports North Storm Football Club. At the match between North Storm and West Stanford there were 71,167 spectators. If 41,109 were North Storm supporters, how many West Stanford supporters were there?
- There were _____ West Stanford supporters.
- 9) Each coach has 50 seats and there are 1030 supporters. How many coaches are needed to take all the supporters?

You can use a calculator to answer this question.

- 10) Tom spent the following amounts going to the match.

Travel	£14.00
Ticket	£32.50
Food & drinks	£12.50
Programme	£6.00

How much did Tom spend altogether?

- 11) Sam joins a gym and completes a membership form.
He is 187 cm tall. How many metres is this?
- 12) He weighs 88.9 kg. How many grams is this?
- 13) Sam wants to lose 10% of his weight. What is 10% as a decimal?
- 14) Paula is given a litre bottle of water during her fitness assessment at the gym. She drinks 375 millilitres of the water. How much is left?
- 15) Paula is training to take part in a fun run for charity. Paula weighed 65.5 kilograms before she started her training. She has lost 3500 grams. How much does she weigh now?
- 16) During the run she drinks 4 bottles of water containing 750 ml each. How many litres of water has she drank in total?
- 17) You are decorating your bedroom. To get the paint colour you want, you mix 2 parts red with 3 parts cream and 1 part blue.
How much cream and blue paint will you need to mix with 4 litres of red?
4 litres red: _____ litres cream: _____ litres blue

- 18) You are a member of the darts team and they have won £1750 prize money in a competition. £70 is to be saved for a celebration party; the remainder is to be divided equally between the 14 team members.

How much will you get? ***You can use a calculator to answer this question.***

- 19) You have a new mobile phone. The phone costs £140 and then you pay for a one year contract at £15 per month.

You can use a calculator to answer this question.

How much do you pay in total at the end of the year?

- 20) Jenny catches a taxi from the supermarket to her house. The taxi firm charges £3.00 standing charge, plus 50p per mile. How much will it cost Jenny to travel 8 miles?

- 21) Jenny is cooking a chicken for dinner. A chicken needs be cooked for 40 minutes per kilogram, plus an extra 20 minutes. How long will it take to cook a chicken weighing 3 kilograms?



- 22) Your Mum has saved £12,000 and has agreed to give you a share. Would you rather have $\frac{1}{5}$ or $\frac{1}{10}$?

- 23) Put the following in order from the largest to the smallest.



largest $1\frac{1}{4}$ 0.2 60% 0.75 $\frac{1}{2}$ smallest

- 24) Charlotte has invited 75 people to her party. The buffet menu below is for 25 people.

Buffet for 25 people

50 sausage rolls
75 sandwiches
25 samosas
50 chicken sticks
50 pickled onions
5 dips
5 vegetable platters
25 pieces of fruit
5 cakes

Work out how many of the following she will need:

Sausage rolls:

Sandwiches:

Samosas:

- 25) You are buying a new television and see it at the same price in several shops with various discounts. **Select the discounts which are the same.**

50% off

$\frac{1}{5}$ off

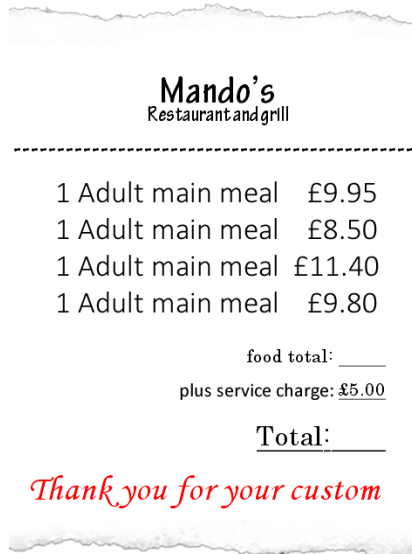
**Everything
half price**

25%

**10%
Reduction**

$\frac{1}{2}$ price sale

- 26) Four friends go out for a meal.



Mando's
Restaurant and grill

1 Adult main meal £9.95
1 Adult main meal £8.50
1 Adult main meal £11.40
1 Adult main meal £9.80

food total: _____
plus service charge: £5.00

Total: _____

Thank you for your custom

They round the total amount including the service charge to the nearest whole pound and pay this amount to Mando's. How much do they pay?

- 27) You need £2,500 as a deposit for a new car. You have already saved 50% of this amount. Which calculation could you use to check how much you still need to save?

$\frac{1}{4}$ of £2, 500

$\frac{3}{4}$ of £2,500

$\frac{1}{2}$ of £2,500

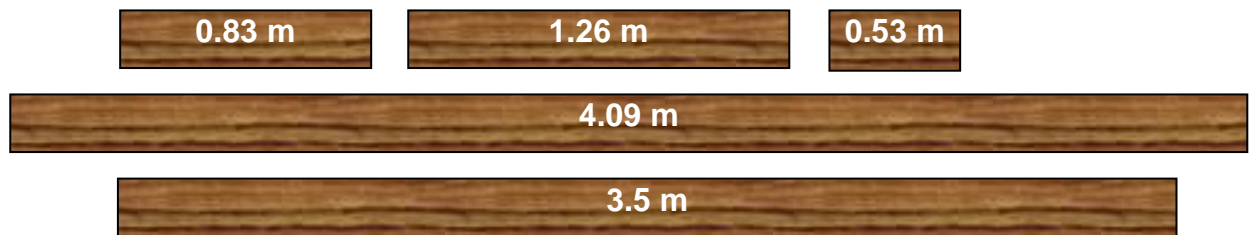
- 28) You are fitting a new kitchen and measure the following lengths of pipe.

Subtract the shortest length from the longest.

Give your answer in metres.

0.81 m
1.08 m
180 cm
0.8 m
18 cm

- 29) You have several pieces of wood.



Add the lengths together to give the total length: _____ m

- 30) You are repairing a fence and have 7.9 metres of wood. You need 10 metres.

Select the two correct statements from the list below.

- You will need more wood to repair the fence.
- You have enough wood to repair the fence.
- You will need an extra 2.1 metres of wood for the fence.
- You will have 2.1 metres of wood left after repairing the fence.

- 31) George buys a computer. He pays a deposit of £200 and six monthly instalments of £55.

How much does George pay for his computer in total? £_____

- 32) 9 friends catch the bus into town. The total cost is £31.05. How much does it cost for one person?

£_____

- 33) Jasmine works in Lower Beauvale and arrives at the station at 5.20 p.m.
If she catches the next available train to Common Top, what time will she arrive?



EASTWOOD - BEAUVALE - MOORGREEN - COMMON TOP <i>train no: 101</i>							
MONDAYS TO SATURDAYS							
EASTWOOD	08:22	10:22	12:22	13:22	15:22	17:22	19:28
Lower Beauvale	08:28	10:28	12:28	13:28	15:28	17:28	19:35
Beauvale Park	08:45	10:45	12:45	13:45	15:45	17:45	19:45
Moorgreen	09:06	11:06	13:06	14:06	16:06	18:06	20:06
Newthorpe	09:10	11:10	13:10	14:10	16:10	18:10	20:10
Giltbrook	09:12	11:12	13:12	14:12	16:12	18:12	20:12
Hill Top	09:16	11:16	13:16	14:16	16:16	18:16	20:16
COMMON TOP	09:19	11:19	13:19	14:19	16:19	18:19	20:19

- 34) Jasmine left the house at 7.10 am to go to work. She gets back at 6.35 pm.
How long is she out of the house?

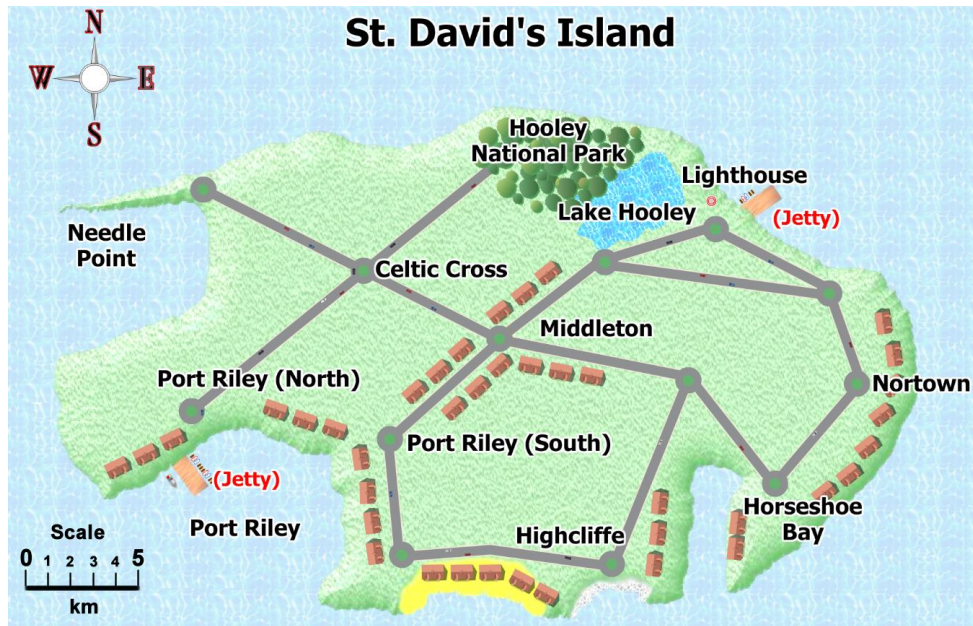
- 35) Jasmine wants to eat at 8:00 pm. Her meal takes 65 minutes to cook.
What time does she need to put the meal in the oven?

Give your answer in the 24 hour clock.

- 36) Jasmine's dessert takes $3\frac{1}{2}$ minutes to cook in the microwave.
How many seconds is this?

_____ Seconds

- 37) Harry drives a delivery van and has several deliveries to make.



He is in Horseshoe Bay and has a delivery to make in Highcliffe.

What is the approximate distance (to the nearest kilometre), by road, between Horseshoe Bay and Highcliffe?

_____ Km

The answer to this question will be marked within a reasonable range.

- 38) Harry is at the depot in Dover and has deliveries to make in Leeds, Glasgow and Aberdeen.

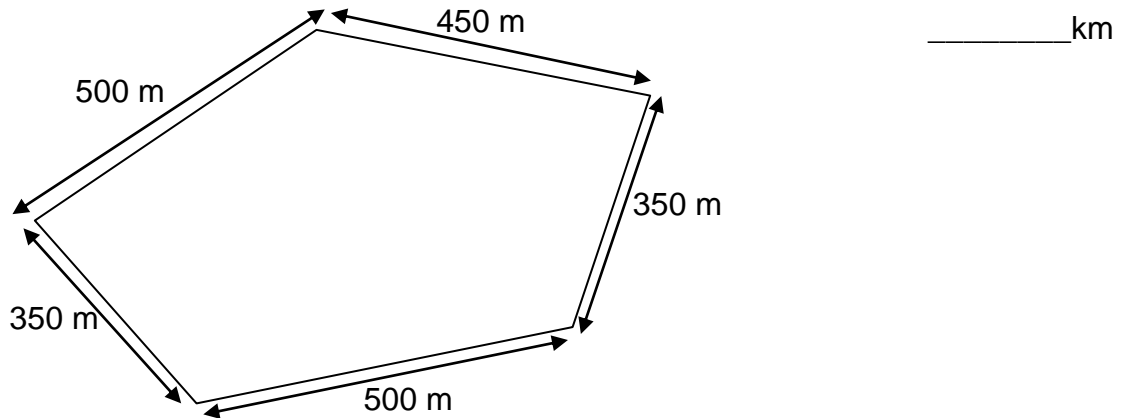
Aberdeen						
514	Cardiff					
532	238	Dover				
232	399	458	Edinburgh			
587	397	499	48	Glasgow		
479	249	264	232	267	Hull	
360	230	271	202	222	220	Leeds

Not genuine
mileage

From Dover which of the deliveries is the shortest distance?

Leeds / Glasgow / Aberdeen

- 39) Paula runs around the local park.
What is the perimeter of the park? **Give your answer in kilometres.**



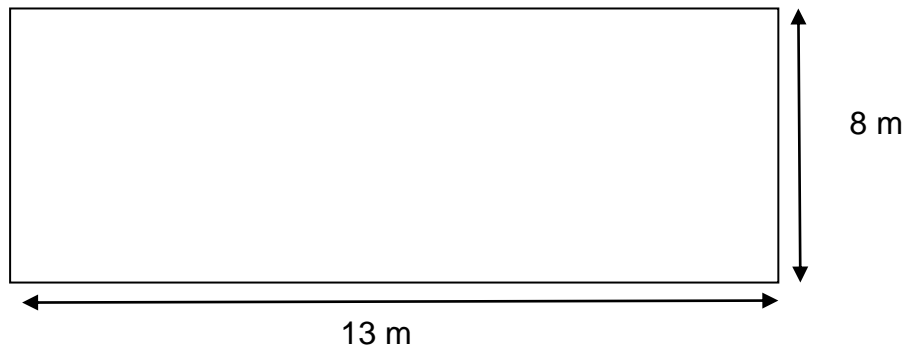
- 40) Paula runs with 2 of her friends. The table below shows their last 3 lap times.

Name	Lap 1	Lap 2	Lap 3
Paula	16 mins 20 secs	15 mins 50 secs	14 mins 40 secs
Kate	16 mins 30 secs	16 mins 20 secs	15 mins 40 secs
Sam	16 mins 10 secs	16 mins 10 secs	15 mins 30 secs

What is the range in the lap times recorded?

- 41) 50 people sponsor Paula and she raises a total of £180 for charity. What is the mean average amount sponsored?

- 42) There is a café at the park.



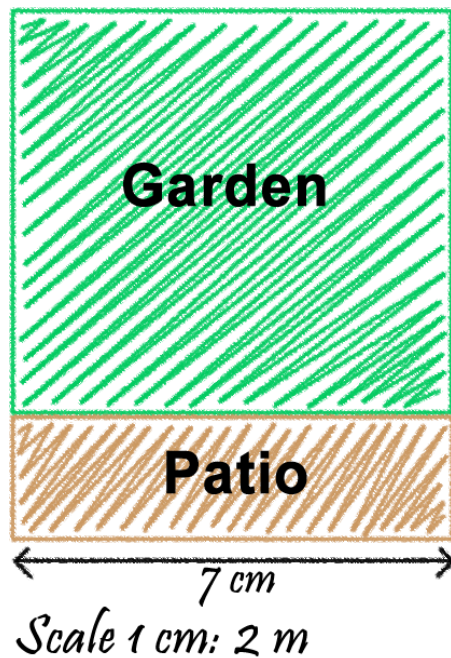
It is 13 metres long and 8 metres wide. What is the area of the café?

21 / 104 / 42 / 52 m / cm² / m² / m³

- 43) There is a small pond which is 8 metres long, 4 metres wide and 2 metres deep. What is the volume of the pond?

32 / 16 / 14 / 64 m / cm² / m² / m³

- 44) You are looking at the scale drawings for a new house.



According to the scale drawing, how wide will the actual patio be?

- 45) The building site is 90 metres long and 45 metres wide. What is the area of the site?

45 / 4050 / 50 / 4550 m / cm² / m² / m³

- 46) How many degrees are there in a right angle?

90°

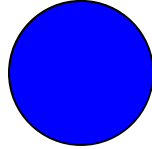
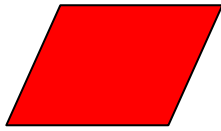
180°

270°

360°

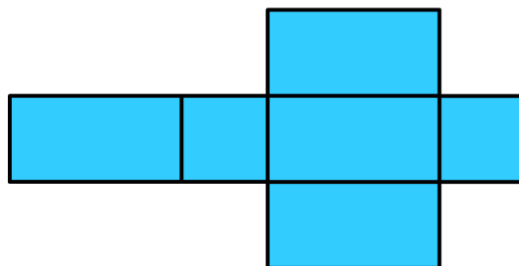
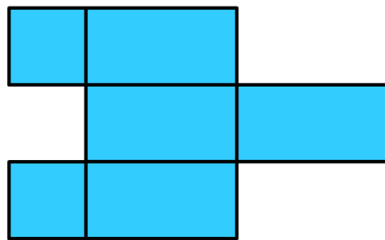
- 47) Select the shapes which have at least one line of symmetry.

Select your answers.

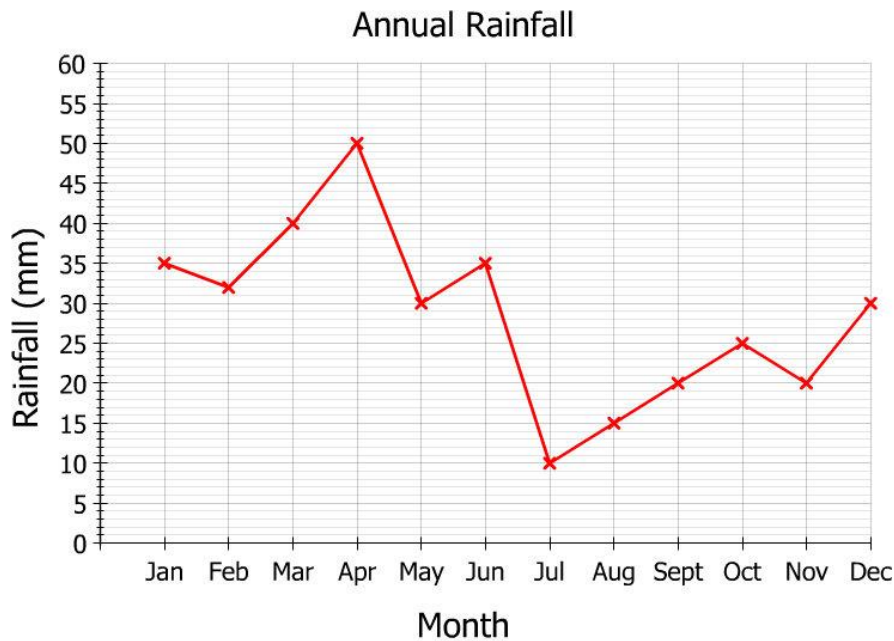


- 48) The trainers you bought came in a rectangular box. Which of the following is a net of a cuboid?

Select your answer.

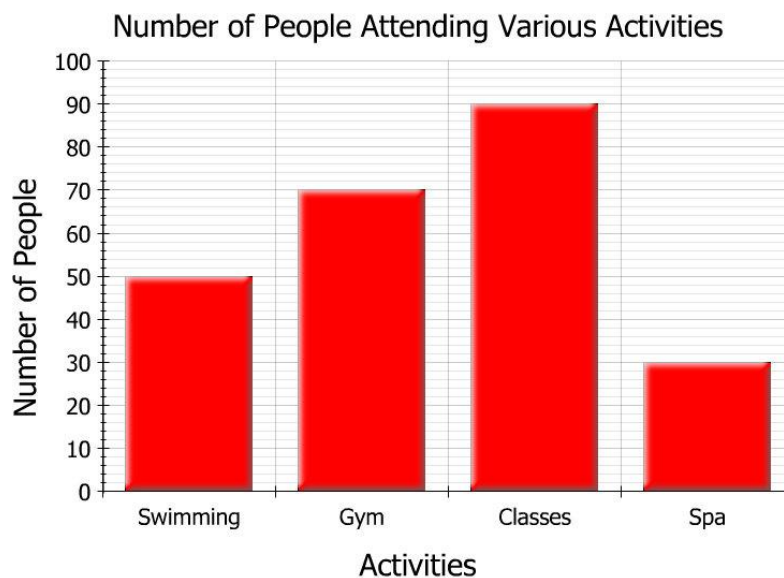


- 49) The following line graph shows the amount of rainfall during each month last year at a resort in England. Which month was the wettest? Select your answer.



Jan / Feb / Mar / Apr / May / Jun / Jul / Aug / Sept / Oct / Nov / Dec

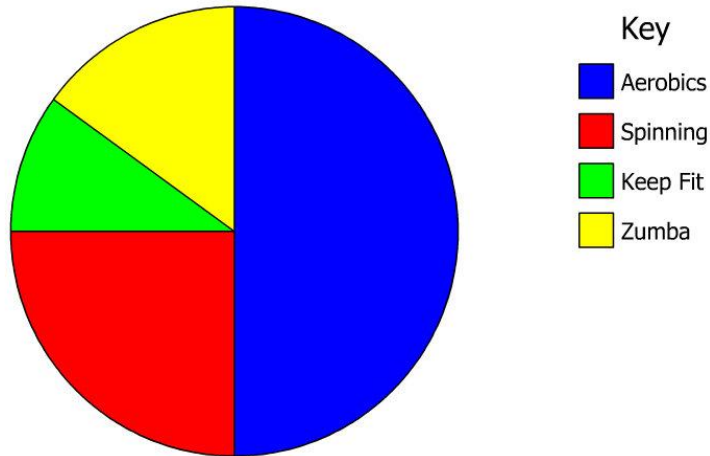
- 50) Below is a bar chart showing the number of people attending various activities on one day at a health and fitness club.



How many people attended the activities in total?

- 51) 100 people attend various classes at the health and fitness club on one day.

Numbers in Fitness Classes



How many people go to the spinning class?

- 52) There are 24 people using the gym. The ratio of men to women is 2 : 1.

How many men are using the gym?

- 53) Below is a list of the trainer sizes of the people using the gym.

4	6	8	7	5	5	6	3
4	5	7	6	8	6	5	5
7	8	6	5	7	4	7	6

Use the information from the above list to complete the missing numbers from the frequency column.

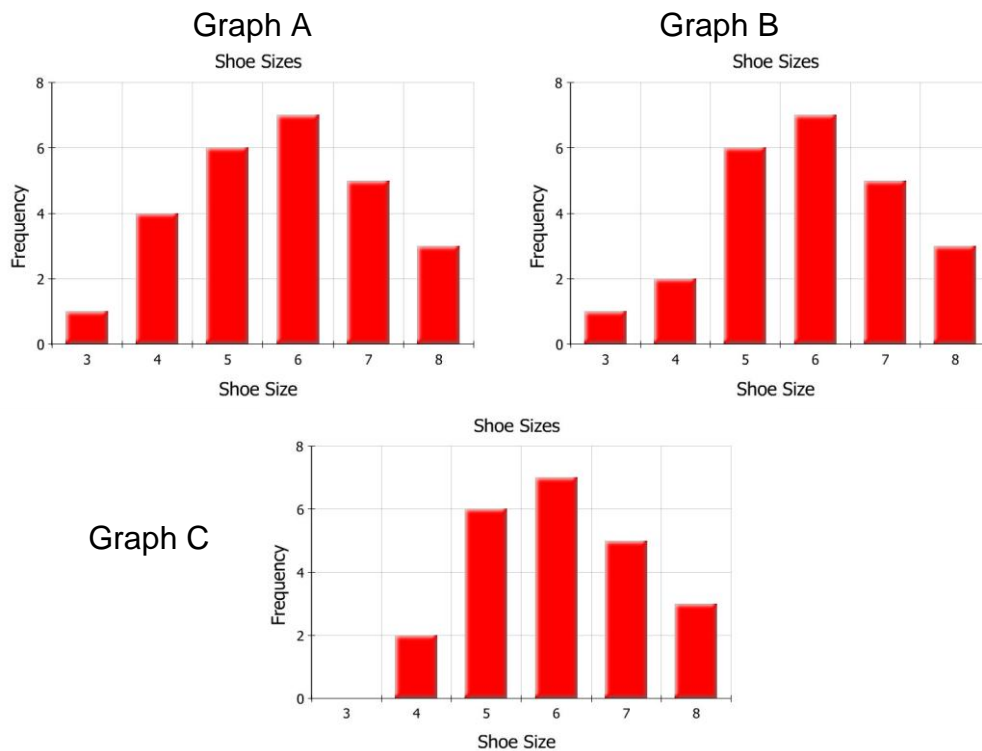
Trainer Size	Frequency
3	A
4	B
5	6
6	6
7	5
8	3

A=

B=

54) Which chart represents the information from this table?

Shoe Size	3	4	5	6	7	8
Frequency	1	2	6	7	5	3



Graph A / Graph B / Graph C

- 55) Linda goes to a spinning class at the health and fitness club.



Day	Time	Number in Class
Monday	06:30 - 07:30	13
Tuesday	10:00 - 11:00	23
Wednesday	18:30 - 19:30	24
Thursday	18:30 - 19:30	31
Friday	17:30 - 18:30	14

There are five classes a week and the table above shows the number of people in each class last week. What is the mean average number of people in a class?

- 56) The ages of the people at a spinning class is shown below. What is the range in their ages?

29	62	38	47	53	45	56	31
46	52	27	46	38	44	35	25
37	28	26	64	33	43	47	26

57) What is the likelihood of throwing a 6 with a single throw of a die (dice)?

1 in 2

1 in 6

2 in 6

3 in 6

58) If you throw a 6 with your first throw of a die, is there more or less chance of throwing another 6 on your second throw?

more chance

less chance

same chance

no chance

59) Which of these are impossible?

A head on the toss of a coin.

Having a birthday on 32nd May.

Snow in March.