

Unit Title: Numeracy at SCQF Level 5

Unit Code: F3GF 11

Pre-assessment 2

Construction

Student Name: _____ **Course/Class** _____

I understand the conditions of this pre-assessment and the policy on plagiarism.
In signing, I declare that the evidence presented throughout the unit is my own work,
acknowledging all sources of reference and providing citation as appropriate.

Student Signature: _____ **Date:** _____

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Conditions of Pre-Assessment

Classroom (Open Book)	☐	Practical	☐
Classroom (Closed Book)	☒	Written	☒
Home-Based (Open Book)	☐	On-line	☐
Other	☐	Supervised	☒
Duration of Pre-Assessment:		Approx. 60 mins	
Resources Required:		Calculator, graph paper, ruler, compasses,	
Pass Mark:		All responses correct	

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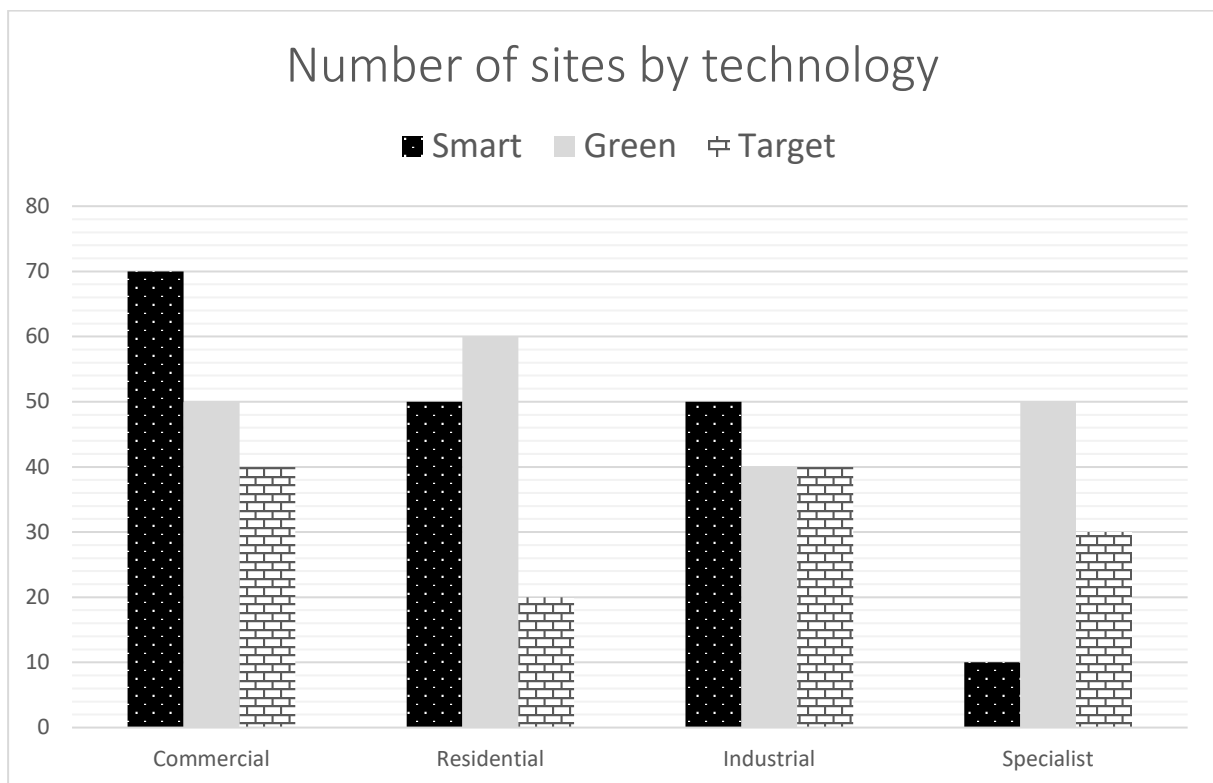
1. Using the graph shown below, complete the tables accordingly

Number of Construction Sites (Smart Technologies)

Technology Type:	Smart Technologies		
Site Type	Site Numbers	Site Type	Site Numbers
Commercial		Industrial	
Residential		Specialist	

Number of Construction Sites (Green Technologies)

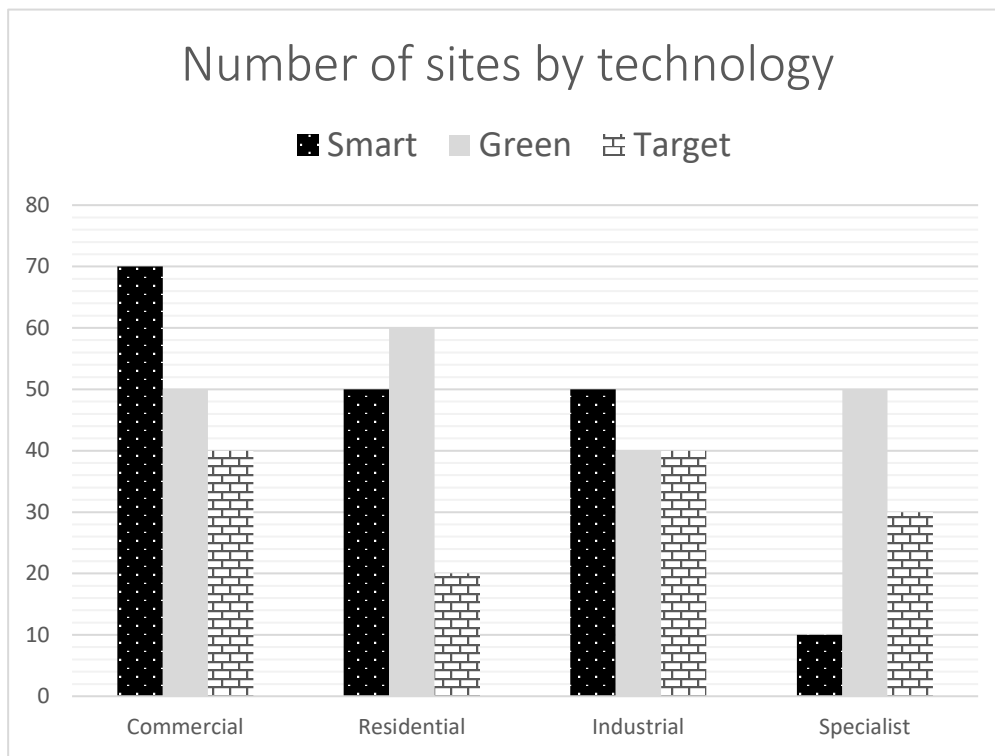
Technology Type:	Green Technologies		
Site Type	Site Numbers	Site Type	Site Numbers
Commercial		Industrial	
Residential		Specialist	



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2. From the graph shown below, answer the following three questions



What is the largest quantity for Smart Technologies?

.....**ANSWER:**

What is the least quantity available for Green Technologies?

.....**ANSWER:**

Explain what the graph represents and the significance of the lowest reading.

.....**ANSWER:**

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3. A construction company is planning some work during the night to cover for sickness.

The night shift rate is £13.98 per hour or part thereof for the first 2 hours, then it increases by 25% per hour or part thereof.

Jenny works 5 and $\frac{3}{4}$ hours during the night.

Jackie works 8 and $\frac{1}{12}$ th hours during the night.

Jane works 1 $\frac{1}{4}$ hours during the night.



The company needs you to calculate the cost for this night cover for sickness.

Give your answer below in Pounds and Pence.

ANSWER:

4. During an inspection of fire doors with spring loaded hinges. As an experiment and learning experience, staff have been asked to stretch a spring to extend its length by forty per cent. The original length of the spring was 45 centimetres.

What should be the length of the extended spring?

Give your answer in centimetres, rounded off.



Answer:

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5. 22 fire extinguishers being delivered to a local site are found to be manufacturer faulty. Eight of them are returned to the manufacturer due to the extent of faults.



What percentage of extinguishers have been returned?

Give your answer as a percentage.

Answer:

6. A new style machinery transporter is being tested on a journey across Europe. Whilst travelling across some countries they find the cost of filling the fuel tank is 220 euros. Finding this expensive they need to compare this amount to pounds sterling.

Amazingly, the exchange rate is 1.4 euros to the pound.

In pounds sterling, how much did it cost for filling the fuel tank?

Answer:

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7. Calculate the following invoice amounts for accident pain relief for a couple of construction sites and **show all workings**:

- i. Pain Relief £249.30
 Specialist Syringes £350.70
 VAT @ 20%

..... **ANSWER:**

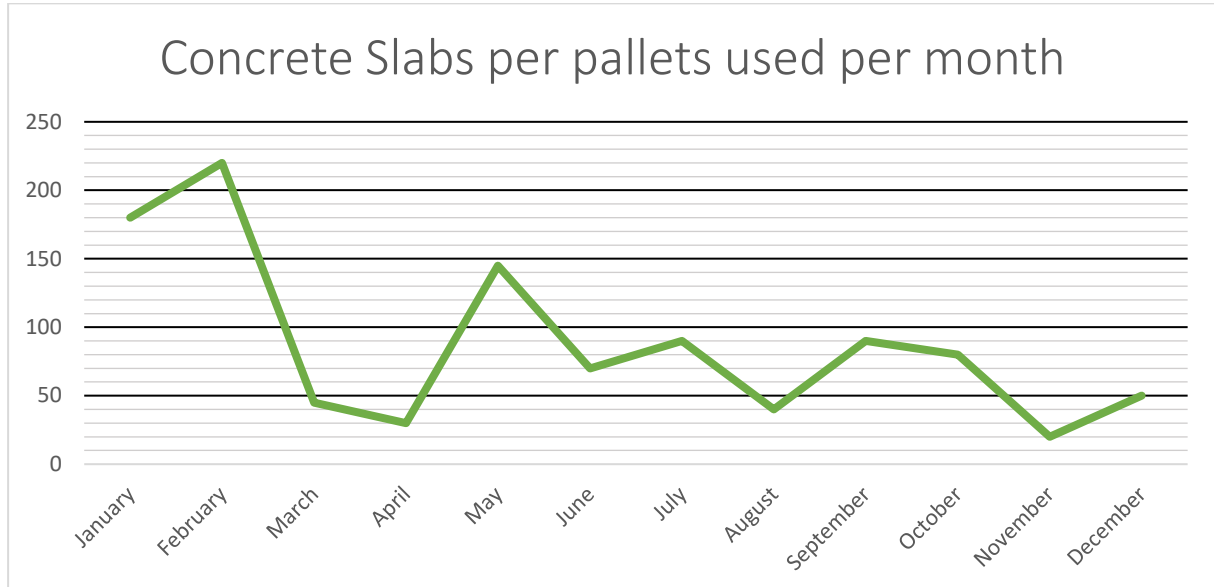
- ii. Pain Relief £746.80
 Specialist Syringes £374.50
 VAT @ 20%

..... **ANSWER:**

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8. Using the line graph below that shows the number of pallets of concrete slabs used for the year per month, answer the three questions below.



How many pallets of concrete slabs used in September?

In which months was there over 200 pallets of concrete slabs used?

What was the least number of pallets of concrete slabs used and which month was it?

Pre-assessment is continued on the next page with another question...

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9. After calculating the cost for each of the following tariffs, state which one is the cheapest and by how much, based upon monthly figures of:

Peak call minutes of 115 and Off-peak of 321 call minutes

5 GB of data and 1080 text messages

Pay As You Go

Peak Call Minutes charged at 15p a minute.

Off-Peak Call Minutes charged at 8p a minute.

1000 Text Messages free, then each one is charged at 2p each.

2GB of monthly data free, thereafter £1.50 per GB of data or part thereof.

All prices above are excluding VAT) add VAT at 20% for full retail cost.

Contract

Monthly contract fee of £4.80 per month.

Anytime Call Minutes free up to 360 minutes then 30p per minute, noting this is peak and off-peak combined for anytime calls.

Unlimited text messages free.

4GB of monthly data free, thereafter £1.80 per GB of data or part thereof.

All prices above are excluding VAT) add VAT at 20% for full retail cost.

ANSWER:

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10. A large China based construction firm have recorded their annual profits for last year as **318** million, providing the data in a table.

Month:	Annual Profits (in millions)
January	47
February	40
March	21
April	42
May	49
June	5
July	5
August	20
September	44
October	22
November	18
December	5
Total:	318

Present the above data on a suitable line chart / graph to show ups / downs.

End of Pre-Assessment