Unit standard: 19143 v3
Level: 2
Credits: 3
Assessment version: 1.1

PrimaryITO
KNOWLEDGE TO GROW

Unit Standard: 19143
Perform calculations in a primary industry context

Assessment

Learner to complete	
Learner name:	
Learner phone number:	
Learner address:	
Learner declaration: I declare that all work is my own.	
Signature:	Date:

Assessor to complete		
Result	☐ Standard achieved	☐ Further evidence required
Comments/Areas to revisit:		
Assessor name:		
Signature:	Date:	

Re-assessment (if required) – Assessor to complete		
Re-assessment date:		
Result	☐ Standard Achieved	☐ Further Evidence Required
Signature:	Date:	

Instructions

- Write your name, phone number, and address on the front page.
- Answer all questions in the spaces provided, use more paper if required.
  This assessment can also be completed **verbally** with the Verifier/Assessor. If you would like to do this assessment verbally, the Verifier/Assessor must write down your answers in the spaces provided, and initial when they have done so. The verbal sign off must also be completed at the end of the assessment.
- You must show that you have achieved the standard by fully completing this assessment.
- If you do not reach the standard, you will have another opportunity (chance) to do the assessment again.
- This is an open book assessment.
- If you require this assessment to be printed on coloured paper, contact Primary ITO on 0800 20 80 20 and talk our Learning Support team.

Completing this assessment **verbally –** this means you can tell your Verifier/Assessor your answers instead of writing them down.

31 August 2020

Definitions

Definition	Description
Calculations	Using maths to solve a problem.
Mark-up	The difference between the retail price and the cost of goods. Mark-up = profit/cost x 100%
Hectare (ha)	A measurement of land that is equal to 100m^2.
Water tank	A container for storing water.
Herbicide	A substance used to destroy unwanted vegetation. It can be mixed with water to form a concentrate.

Outcomes

Learning outcome		Activity
1	Perform calculations in a primary industry context	1 - 5

Evidence

Provide evidence for each question by clearly showing your working out and your final answer.

Assessment

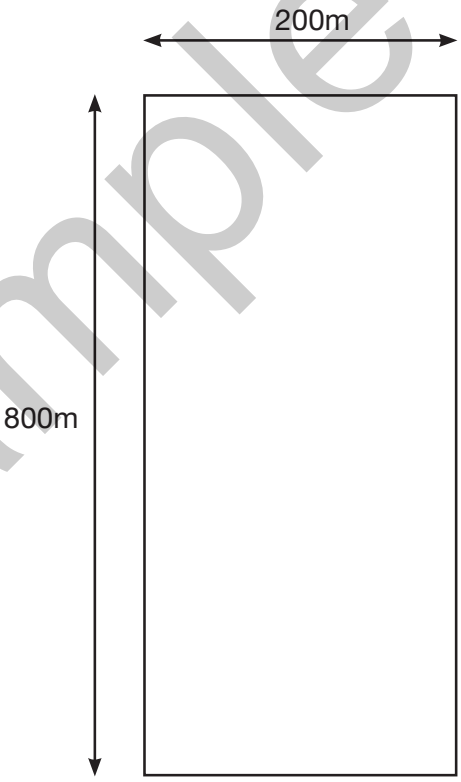
You will need to work through the following activities.

Your Verifier/Assessor will initial and date each activity when they are confident that you have achieved the learning outcome.

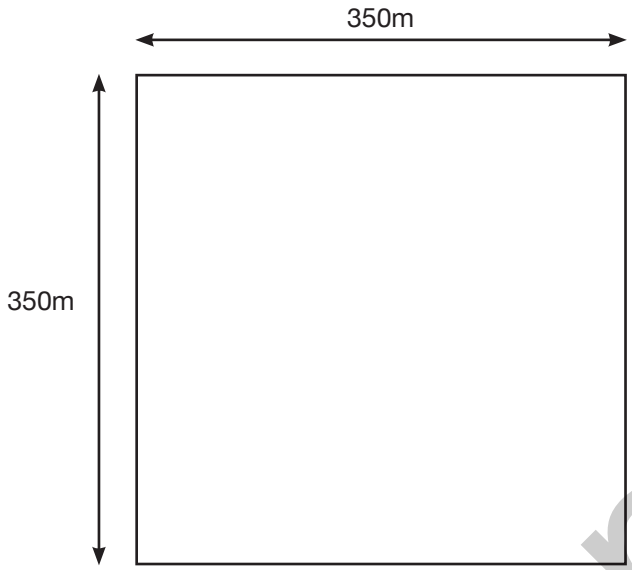
Activity 1: Apply area calculations to workplace examples

Complete the calculations below. You must clearly show your working out and your final answer. You can use a calculator for these calculations if required.

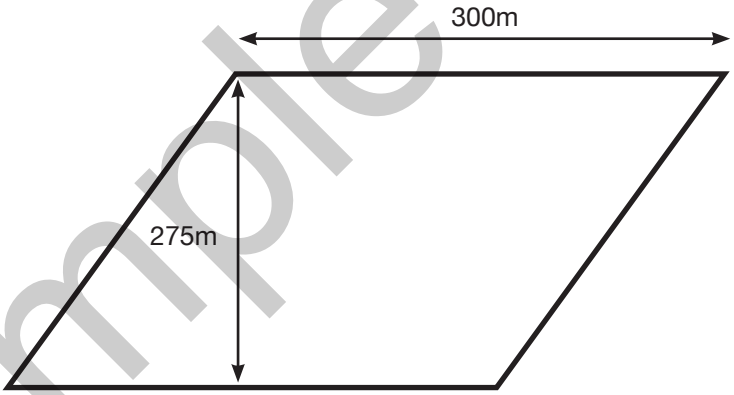
1. Calculate the size of the paddocks below in **hectares.**



Answer:



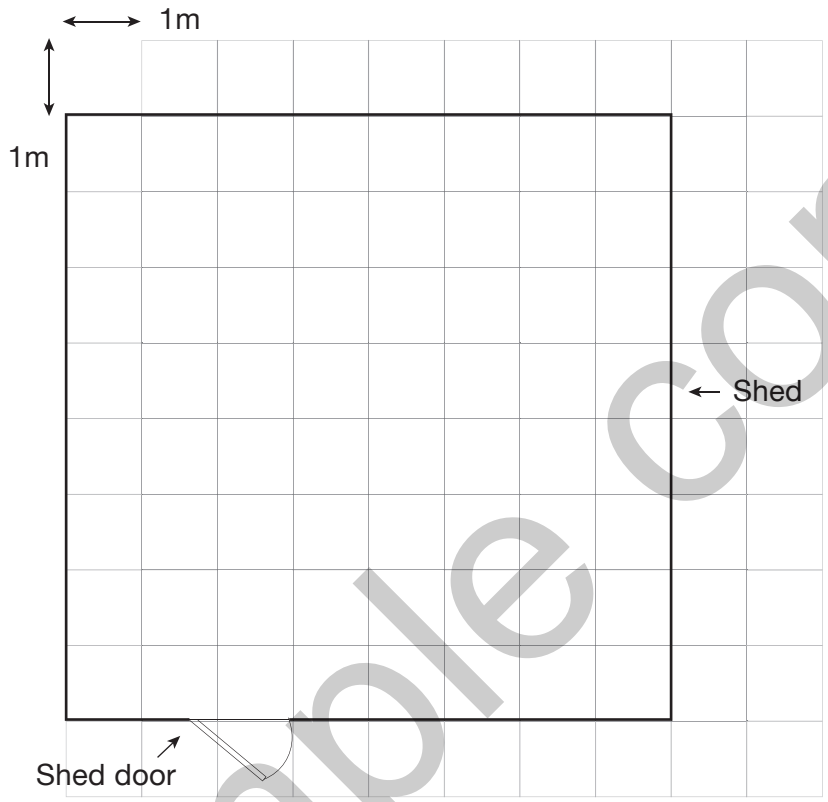
Answer:



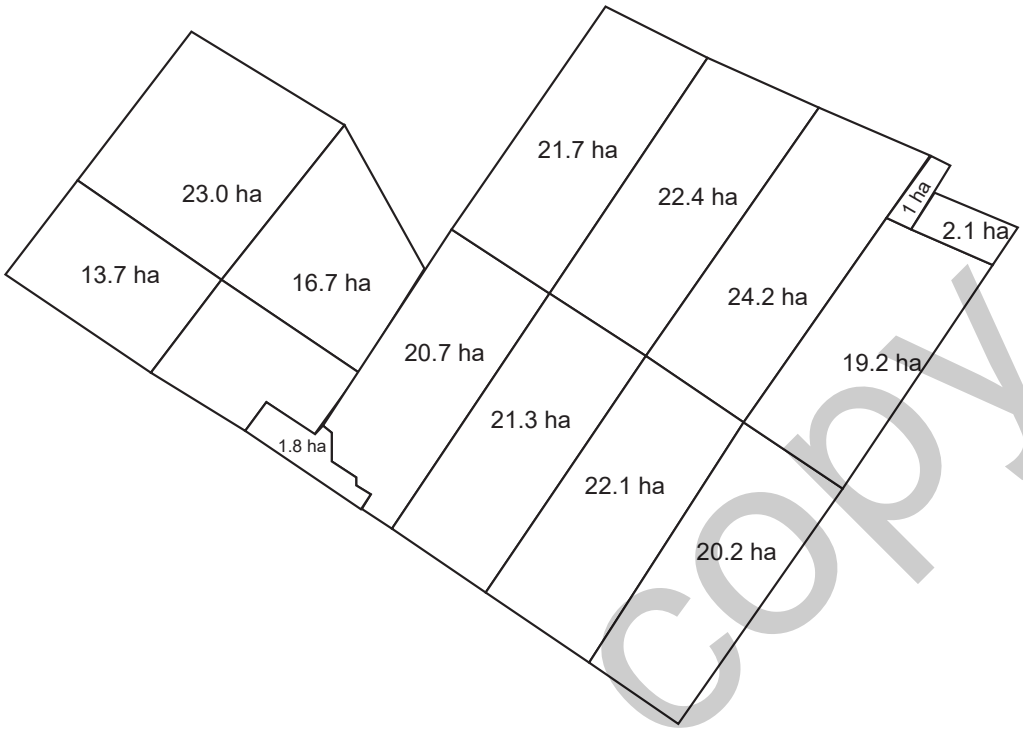
Answer:

2. Mark out the **perimeter** for a new calf pen within the shed, **on the graph paper below.** Your markings must be to scale.

- The area of the calf pen must be equal to 12m².
- Each small square is 1m².



3. Calculate the **total combined area** of the paddocks in the map below.



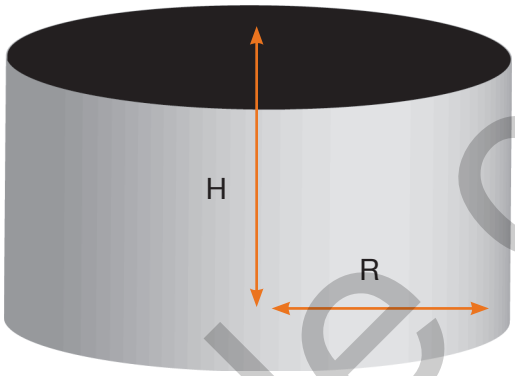
Answer:

Activity 1: Apply area calculations to workplace examples	**Verifier**
The Learner can apply area calculations to workplace examples.	Name & date

Activity 2: Apply volume calculations to workplace examples

Complete the calculations below. You must clearly show your working out and your final answer. You can use a calculator for these calculations if required.

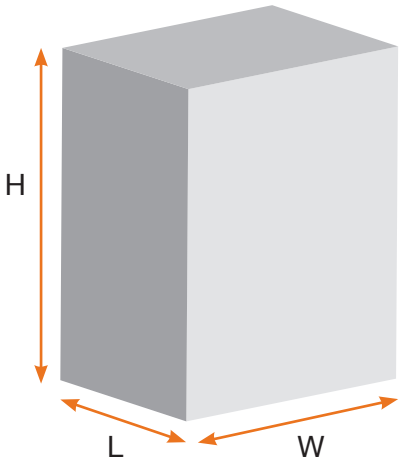
1. Calculate the **volume** of water the trough can hold (in litres) when full.



- Trough dimensions: height = 750mm and radius = 700mm

Answer:

2. Calculate the **volume** of water the tank can hold (in litres) when full.



- Tank dimensions: height = 1500mm, length = 1000mm, width = 1250mm

Answer:

3. How much concrete will you need to concrete a floor, if the dimensions of the floor are, length = 15m and the width = 20m? And the thickness of the floor is 150mm thick? Calculate your answer in **m^3.**

Answer:

Activity 2: Apply volume calculations to workplace examples.	**Verifier**
The Learner can apply volume calculations to workplace examples.	Name & date

Activity 3: Apply percentage calculations to workplace examples

Complete the calculations below. You must clearly show your working out and your final answer.

1. There are 50 heifers mated on the farm with a 76% live calf birth rate. For every calf that is born and you are expected to earn $700. **How much income** are you expected to generate from the 50 heifers?

Answer:

2. If a 580 hectare farm produces 125 tonnes of barley in 2019 and in 2020 you predict a 20% loss. How many **tonnes** of barley do you predict for 2020?

Answer:

3. If you sell 1kg of meat for $5.75 and the retail cost per kg is $11.50. What is the **mark-up in percent** of 1kg of meat?

Answer:

Activity 3: Apply percentage calculations to workplace examples	**Verifier**
The Learner can apply percentage calculations to workplace examples.	Name & date

Activity 4: Apply average calculations to workplace examples

Complete the calculations below. You must clearly show your working out and your final answer.

1. The table below shows average rainfall in November in the Waikato. What is the **average** rainfall for this 10 year period? Give your answer in ml.

Average rainfall in November			
2019	75ml	2014	90ml
2018	86ml	2013	69ml
2017	82ml	2012	75.5ml
2016	76ml	2011	71ml
2015	72ml	2010	72ml

Answer:

2. The weight of five different heifers at 12 months and again at 22 months is shown in the table below. What is the **average** weight of the heifers at 12 months and at 22 months?

Age	Liveweight (kg)				
12 months	210	232	250	275	312
22 months	378	421	450	495	540

Answer:

3. In the table below, the highest temperatures (°C) for each month in 2019 have been recorded.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
°C	23	23.5	20	19	16	15	14	15	16	16.5	18	

If the **average** temperature for 2019 is 18°C, what was the highest temperature recorded in December?

Answer:

Activity 4: Apply average calculations to workplace examples	**Verifier**
The Learner can apply average calculations to workplace examples.	Name & date

Activity 5: Apply ratio calculations to workplace examples

Complete the calculations below. You must clearly show your working out and your final answer.

1. If 1L of herbicide concentrate covers 1 hectare of land with a mix ratio of 20:1 (20 litres water to 1 litre herbicide). How much water in Litres, would you need to spray 80 hectares of land?

Answer:

2. How much cement is needed to make a slab of concrete which requires 100cubic metres of concrete?

- Dry cement is 2.2 tonnes per cubic metre.
- Ratio = 1:3:6 cement, sand, aggregates

Answer:

3. How much oil is needed, if there is 5 litres of petrol and you need to add 2 stroke oil to make a mix of 50 parts petrol 1 part oil? Round your answer. Give your answer in ml to the nearest 100

Answer:

Activity 5: Apply ratio calculations to workplace examples.	Verifier
The Learner can apply ratio calculations to workplace examples.	Name & date

Learner comments	
Learner name:	
Signature:	Date:
Learner comments: For example: How did you find the Assessment? Was it clear to understand? How well did it relate to your workplace? What could be done to make it better?	

If the assessment was completed verbally, the following verbal sign-off must be completed as well.

Verbal sign-off	
Verifier/Assessor to complete:	
☐ I recorded the answers as given to me verbally by the Learner.	
Learner to complete:	
☐ The Verifier/Assessor wrote down the information that I gave them for this assessment. ☐ They have read my answers back to me and I agree that those are accurate and ready to be assessed.	
Learner signature:	Date:

Verifier declaration – Unit standard 19143 v3	
The Learner demonstrated that they have achieved all the outcomes for this unit standard.	
Verifier comments: Final overall comments on the Learner's ongoing competency, attitude, behaviour, and confirmation that they have successfully demonstrated the social requirements for family living in a primary industry context.	
Learner name:	
Verifier name:	
Signature:	Date:
Job title:	
Contact details	
Phone:	Email:

Assessor final sign-off

This section is to be completed when final competency of unit standard 19143 v3 is achieved.

Learner name:

Verification record — please complete all details below

Assessor comments:

Assessor name:

Assessor no:

Signature:	Date:

Contact details

Phone:	Email:

Resource Feedback

In order to keep our resources as up-to-date and relevant as possible we would appreciate any comments, feedback or suggestions you may have with regard to this particular resource or others that you have used.

Please contact us via email **product@primaryito.ac.nz** if you have any suggestions that you feel would be useful.

Please remember to indicate the resource you are giving feedback on in your email, and please provide your contact details.

Thank you for taking the time to provide us with feedback.