Business Tax Activity 5: The Goods and Services Tax (GST)

Years 11-12

TASK 3
BREAKING EVEN AND GST

Worksheet

Focus: Mathematics
Opportunities: Business

YOU WILL:

- determine the number of sales required to break even compared to the gross revenue requiring a company to register for GST
- investigate the impact of changing costs on the break even point
- calculate storage space needed

YOU WILL NEED:

- *Fact sheet: The Goods and Services Tax (GST)*
- A calculator

A business is said to break even when the total revenues (all the income from sales) equals the total costs. The costs can be fixed, like rent of premises, or variable, such as the cost of stock. Fixed costs do not change with sales volume but variable costs do.

Scenario

GNG Drones plans to sell palm size drones at $30 a unit, excluding GST. The business is not currently registered for GST. The fixed costs including the warehouse lease and salaries will amount to $80 000 per year. The variable costs per drone have been calculated to be $12 (excluding GST).

1. Complete the following table to calculate the profit or loss for different quantities of drones sold in one year. All figures are excluding GST.

Units sold	Revenue (ex GST)	Variable costs	Fixed costs	Total costs	Profit/Loss
1000			$80 000		
2000	$60 000				
3000		$36 000			
4000					
5000					
6000					$36 000
7000					

2. Using the table, approximately how many drones need to be sold to break even?
3. If the selling price of a drone is $D and the variable cost is $V, write an expression to show how much is made from the sale of n drones.
4. Explain why GNG Drones would need to sell 4445 drones to make any profit.
5. GNG Drones must be registered for GST if the gross GST revenue for the year (i.e. gross business income excluding GST) totals $75 000 or more. How many drones does GNG Drones need to sell in one year to exceed the $75 000 threshold?
6. GNG Drones decides to reduce the sale price of the drones to sell more of them and to reduce the current fixed costs by sharing warehouse space. The company decides to rent 36 square metres of warehouse space at $250 per week, bringing the fixed costs down to $53 000.
   a. If the company considers selling the drones at $15 each, 25% more than the cost of the drones, how many drones does the company need to sell to break even?
   b. At $15 each, should the business register for GST if it expects to make $1 profit?
7. The Australian standard pallet has dimensions in millimetres of 1165 x 1165 x 150. The rented warehouse space in millimetres is 6000 x 6000 x 2100 (L x W x H).
   a. How many pallets will fit on the warehouse floor?
   b. How much space does this leave between the pallets?
   c. The drones are in boxes with dimensions in millimetres of 180 x 130 x 50 (L x W x H). If the pallet can be stacked to a maximum height of 1140 mm (including the height of the pallet) how many boxes of drones fit on a pallet?
   d. Could you get more boxes on the pallet if you stacked them differently? Explain your reasoning.
   e. GST is payable on imported goods. The GST is calculated in addition to a 5% import duty on the drones. The cost per drone including 5% import duty, freight and insurance but excluding GST is $12. If GNG imports 18,400 drones, what is the import GST?

Extension

You might like to try out the Business viability assessment tool to gain a clearer picture of what is needed to make a business likely to succeed. https://www.ato.gov.au/Calculators-and-tools/Business-viability-assessment-tool/ .