**Grade 10 Break-even chart task**

Two Grade 10 students form a partnership called ‘Whammo Partners’. They make and sell decorative bracelets. To make one bracelet they use silk which costs 5 RMB. They must pay rent for their stall. This costs 50 RMB. They also pay 30 RMB to broadcast a video advert on one of the school TV screens.

The bracelets are priced at 15 RMB each, and Whammo Partners plan to make and sell 30 of them during their four trading periods.

1. Complete the table.

| **Quantity of bracelets** | **Total fixed costs**  | **Total variable costs** | **Total costs** | **Total revenue** |
| --- | --- | --- | --- | --- |
| 0 |  |  |  |  |
| 30 |  |  |  |  |

1. Use the table to produce a hand drawn break-even chart to show the break-even quantity of bracelets. Use the checklist below to ensure your chart is complete.

| **Task** | **Completed?** |
| --- | --- |
| Choose appropriate scale and keep to it. |  |
| Label both axes |  |
| Draw TR line with ruler |  |
| Draw FC line with ruler |  |
| Draw TC line with ruler |  |
| Identify the BEP and quantity on graph. |  |
| Show areas of profit and loss. |  |
| Show margin of safety |  |

1. Use your chart to estimate the break-even quantity of braclets.
2. Estimate the margin of safety for their proposed production level.
3. Calculate the contribution of one bracelet using the formula:

 *Contribution per unit = price - average variable cost*

6. Calculate the break-even point (BEP) using the formula:

 *BEP = Total fixed costs/contribution per unit*

1. Calculate the margin of safety using the formula:

 *Margin of safety = actual production - break-even production*

8. To what extent does the information shown in the chart support the view that the Whammo Partners business will be a success?