Geometry and Measurement, Link (years 7-8)



You need: a calculator

Joan and Dave own a small olive grove (orchard). They tell Charlotte about their business:

We have 600 trees. Each produces about 20 kg of olives each season. We harvest the olives by raking them into nets spread on the ground and then tip them into 10 kg plastic bins. We take the bins to the press. UNITS kg = kilograms L = litres mL = millilitres



We are one of 10 growers who share this press. It can handle 250 kg of olives each hour. This year, our press produced 14 400 L of oil. This is 12 percent of the weight of the harvested fruit. We pour the oil into 250 mL bottles and then pack the bottles in cartons. Each carton holds 20 bottles. One bottle of high-quality oil can sell for \$20.

Charlotte does some "number crunching" and comes up with the following facts. Check each one. Is Charlotte correct? Explain why or why not.

- **a.** Joan and Dave harvest a total of 1 200 kg of olives from their grove.
- **b.** The olives from 2 trees fit into 1 bin.
- c. If they had to store all their harvested olives, Dave and Joan would need 1 200 bins.
- d. In an 8 hour day, the press can process 2 000 kg of olives.
- e. It takes 8 days to process Dave and Joan's olives.
- f. If all 10 growers in Joan and Dave's group have the same sized grove, each produces 1 440 L of oil.
- g. Joan and Dave's olives produce 5 760 bottles of oil.
- h. If Joan and Dave pack all their bottles of oil in cartons, they'll need 188 of them.
- i. Each carton holds 5 L of oil.
- j. If Dave and Joan sell all their oil, they will earn \$115,200.
- k. Each tree earns around \$19.20 each season.