Intermediate 1 - Unit 1 - Practice NAB 2

Outcome 1

1. Janet and Neil go out for a meal.
    The meal costs £25.68 but there is a 7% tip (service charge).
    Calculate how much the tip was.   (2)

2. VAT is 17.5%. Calculate how much VAT would be paid on a Washing Machine
    that costs £429.59. Give your answer to the nearest penny.   (3)

3. a) A plane flies 743 miles in one hour. How far will it fly
        in 6 hours? Round your answer to the nearest 10 miles.   (3)

    b) Lesley is skipping. She can do 11 jumps in 15 seconds.
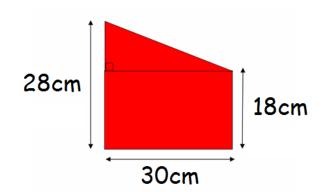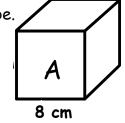   How many jumps can she do in a minute?   (2)

Outcome 2

4. This shape is made up of a rectangle
    and a right-angle triangle.

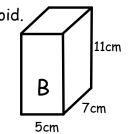   Find the **area** of the shape.   (5)

5. Find the **volume** of this: **a)** cube.   **b)** cuboid.   (4)

6. Find the **circumference** of a circle with a diameter of 22cm.   (2)

7. A circular plate has a radius of 9cm. Calculate the **area** of the plate. (2)

8.   Evaluate 8a – 3b when a = 4 and b = 5   (2)

9.   The advert below shows the cost of hiring a car.

Rent-4-Cheap
£30 per day plus 6 pence per mile

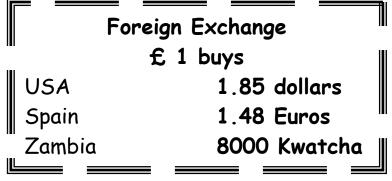How much does it cost to rent the car for 4 days if the number of miles driven is 290?   (4)

10.   P = cg is a formula. Evaluate P when c = 45 and g = 7.   (2)

Outcome 4

11.   Mr Clark gets paid a basic rate of £6.30 per hour.
      Overtime is paid at **time and a half**.

      If he works for 28 hours overtime, how much will Mr Clark earn?   (4)

12.   David wants to buy a TV on a hire purchase scheme.
      The **deposit** is £50 and there are **12 monthly** instalments of £18.40.
      How much does he pay in total for the TV?   (3)

13.   A family is going to Spain.
      They change £650 into Euros.
      How many Euros will she get?

      Foreign Exchange
      £ 1 buys
      USA   1.85 dollars
      Spain   1.48 Euros
      Zambia   8000 Kwatcha

                                                                             (3)

Intermediate 1 - Unit 1 - Practice NAB 2 - Solutions

Outcome 1 – Basic Calculations.	You need 7 out of 10 to pass.

1. $7 \div 100 = 0.07$

$0.07 \times 35.68 = 2.4976$

Tip was £2.50 (accept £2.49)

2. $17.5 \div 100 = 0.175$

$0.175 \times 429.59 = 75.178$ to 3 decimal places

VAT = £75.18 to the nearest penny

3a)

1 hour:	743 miles
6 hours:	$743 \times 6 = 4458$ miles

Distance travelled: 4460 miles rounded to the nearest 10 miles.

b)

15 seconds	11 jumps
60 seconds (1 minute)	$11 \times 4 = 44$ jumps

Outcome 2 – Geometry Properties	You need 9 out of 13 to pass.

4. Area of rectangle: $l \times b = 30 \times 18 = 540$ cm^2

Area of triangle $= b \times h \div 2 = 30 \times 10 \div 2 = 150$ cm^2

Total Area $= 540 + 150 = 690$ cm^2

5a) Volume $= l \times b \times h = 8 \times 8 \times 8 = 512$ cm^3

b) Volume $= l \times b \times h = 5 \times 7 \times 11 = 385$cm^3

6. $C = \prod D = 3.14 \times 22 = 69.08$ cm

7. Area $= \prod r^2 = 3.14 \times 9^2 = 3.14 \times 9 \times 9$
$= 254.34$ cm^2

Outcome 3 – Expressions/Formulae	You need 6 out of 8 to pass.

8. $(8 \times 4) - (3 \times 5) = 32 - 15 = 17$

9. Hire $= 30 \times 4 = £120$

Miles $= 290 \times 6 = 1740$ **pence**
$= £17.40$

Total $= £120.00 + £17.40 = £137.40$

10. P = cg
$= 45 \times 7$
$= 315$

Outcome 4 – Everyday Calculations			**You need 7 out of 10 to pass.**

11. Hourly rate: £6.30
Time and half: £6.30 x 1.5 = £9.45

28 hours overtime £9.45 x 28 = £264.60

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12. Deposit: £50.00
Instalments: £18.40 x 12 = £220.80

Total: £50.00 + £220.80 = £270.80

13.
£	€
1	1.48
650	650 x 1.48 = €962

So £650 would buy €962