Intermediate 1 - Unit 1 - Practice NAB 1
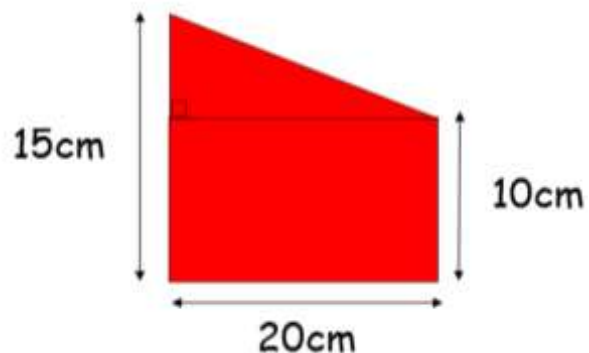
Outcome 1

1. Janet and Neil go out for a meal.
    The meal costs £56.50 but there is a 6% tip (service charge).
    Calculate how much the tip was. **(2)**

2. VAT is 17.5%. Calculate how much VAT would be paid on a TV that
    costs £359.99. Give your answer to the nearest penny. **(3)**

3. **a)** A car travels 44 miles in one hour on the motorway. How far will it travel
    in 3 hours? Round your answer to the nearest 10 miles. **(3)**

    b) A patient counts her heartbeat. It beats 18 beats in 15 seconds.
    How many beats is this per 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)**

15cm

10cm

20cm

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

A

7cm

11cm

B

7cm

5cm
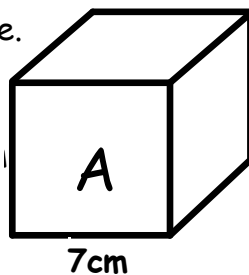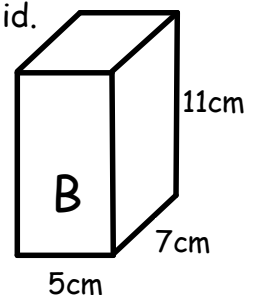
6. Find the **circumference** of a circle with a diameter of 12cm. **(2)**

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

8. Evaluate 4a – 3b when a = 7 and b = 4   (2)

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

Rent-4-Cheap
£25 per day plus 12 pence per mile

How much does it cost to rent the car for 4 days if the number of miles driven is 350?   (4)

10. V = IR is a formula used in science. Evaluate V when I = 21 and R = 8.   (2)

Outcome 4

11. Aly is a doctor, she gets paid £42.20 per hour.
    If she works a Sunday she gets **time and a half**.

    If she works for 8 hours on a Sunday, how much will she earn?   (4)

12. Bill wants to buy a washing machine on a hire purchase scheme.
    The **deposit** is £80 and there are **9 monthly** instalments of £18.50.
    How much does he pay in total?   (3)

13. Jenna is going to Barcelona.
    She changes £350 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 1 - Solutions

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

1. $6 \div 100 = 0.06$ $0.06 \times 56.60 = 3.396$ Tip was £3.40 (accept £3.39)	**2.** $17.5 \div 100 = 0.175$ $0.175 \times 359.99 = 62.998$ to 3 decimal places VAT = £63.00 to the nearest penny
3a) 1 hour: 44 miles 3 hours: $44 \times 3 = 132$ miles Distance travelled: 130 miles rounded to the nearest 10 miles.	**b)** 15 seconds 18 beats 60 seconds $18 \times 4 = 72$ beats (1 minute)

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

4. Area of rectangle: $l \times b = 20 \times 10 = 200cm^2$ Area of triangle $= b \times h \div 2 = 20 \times 5 \div 2 = 50cm^2$ Total Area $= 200 + 50 = 250cm^2$	
5a) Volume $= l \times b \times h = 7 \times 7 \times 7 = 343cm^3$	**b)** Volume $= l \times b \times h = 5 \times 7 \times 11 = 385cm^3$
6. $C = \prod D = 3.14 \times 12 = 37.68cm$	**7.** Area $= \prod r^2 = 3.14 \times 7^2 = 3.14 \times 7 \times 7$ $= 153.86cm^2$

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

8. $(4 \times 7) - (3 \times 4) = 28 - 12 = 16$	**9.** Hire $= 25 \times 4 = £100$ Miles $= 350 \times 12 = 4200$ **pence** $= £42.00$ Total $= £100 + £42 = £142$
10. $V = IR$ $= 21 \times 8$ $= 168$	

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

11. Hourly rate: £42.20
Time and half: £42.20 x 1.5 = £63.30

8 hours on Sunday   £63.30 x 8 = £506.40

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12. Deposit: £80.00
Instalments: £18.50 x 9 = £166.50

Total: £80.00 + £166.50 = £246.50

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13.   £   €
   1   1.48
   350   350 x 1.48 = €518

So £350 would buy €518.