

Pearson
Edexcel

Name: _____

BennettMaths Edexcel 1H – Part 3

18 8 kg of aubergines and 3 kg of radishes cost a total of £28

cost of 1 kg of aubergines : cost of 1 kg of radishes = 1 : 2

Work out the cost of 1 kg of aubergines and the cost of 1 kg of radishes.

aubergines £.....

radishes £.....

(Total for Question 18 is 4 marks)

19 A tailor's shop sells jackets, shirts and pairs of shoes.

The shop sells 7 varieties of jackets.

The shop sells x varieties of shirt.

The shop sells 3 varieties of pairs shoes.

There are 231 different ways to choose one jacket, one shirt and one pair of shoes.

Work out the value of x .

$x = \dots\dots\dots$

(Total for Question 19 is 2 marks)

20 For $x \geq 0$, the functions f and g are such that

$$f(x) = 2x - 6 \qquad g(x) = \frac{2\sqrt{x}}{3} + 7$$

(a) Find $g^{-1}(x)$

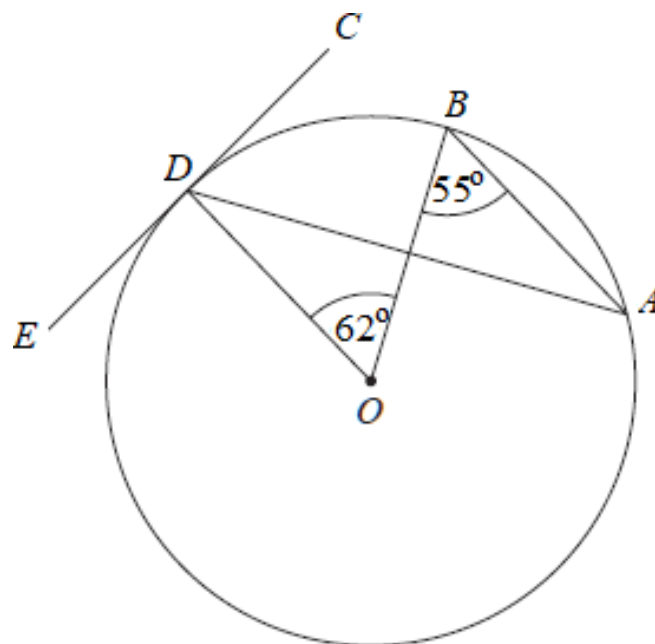
$$g^{-1}(x) = \dots\dots\dots \quad \textbf{(2)}$$

(b) Solve $gf(x) = 15$

$$x = \dots\dots\dots \quad \textbf{(3)}$$

(Total for Question 20 is 5 marks)

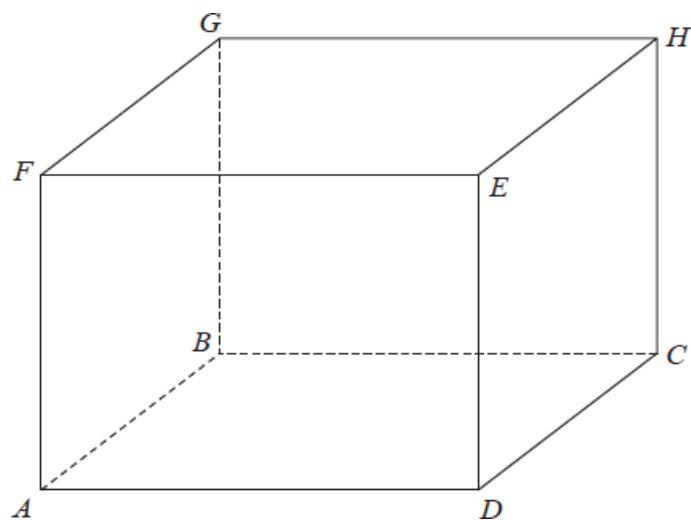
- 21 A , B and D are points on a circle with centre O .
 CDE is the tangent to the circle at D .



Work out the size of angle ADC .
 Write down any circle theorems you use.

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 (Total for Question 21 is 4 marks)

22 $ABCDEFGH$ is a cuboid.



$$ED = 5.9 \text{ cm}$$

$$BE = 11.8 \text{ cm}$$

Work out the size of the angle between BE and the plane $ABCD$.

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(Total for Question 22 is 2 marks)

23 Write $\frac{3\sqrt{5}}{4-\sqrt{5}} - \frac{2}{\sqrt{5}}$ in the form $\frac{a\sqrt{5}+b}{c}$ where a , b and c are integers.

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(Total for Question 23 is 4 marks)

24 Find the set of possible values of x for which

$$9x^2 - 36 < 0 \quad \text{and} \quad 20 - 7x - 3x^2 > 0$$

You must show all your working.

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(Total for Question 24 is 5 marks)
