Multiple-choice section

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 |
| Answer | D | A | C | B |

Question 1 [11.1]

D

4.5 = ,  = 6 =,  (repeating decimal) are all rational

Question 2 [11.1]

A

 is between  and , so  is between 4 and 5.

Question 3 [11.2]

C

 = 

=  × 

= 2

Question 4 [11.2]

B

Adding like terms:

7 – 3 = 4

Multiple-choice total marks: 4

Short answer section

Question 5 2 marks [11.1]

 is an example of a surd or an irrational number.

Question 6 3 marks [11.3]

 + 3

=  + 

= 2 + 3 × 5

= 2 + 15

= 17

Question 7 4 marks [11.4]

(3 + )

= 3 + 

= 3 × 2+ 

= 6 + 2

Question 8 5 marks [11.2]

|  |  |
| --- | --- |
| **(a)**  =  ×  = | **(b)**  =  ×  = |

Question 9 6 marks [11.5]

|  |  |
| --- | --- |
| (a)  = 5  = 5 | (b)  =  ×  =  = |

Short answer total marks: 20

Extended answer section

Question 10 6 marks [11.3]

**(a)** *C* = 2πr  
= 2 × π × = 2 mm

**(b)** Perimeter  
=  + 2 + 5 + 3 + 3 –   
= + 4 + 8 m

Extended answer total marks: 6

TOTAL test marks: 30