

**Higher IGCSE (9 – 1) Revision Pack**

**LCM and HCF**

**Name --------------------------------**

**Questions**

**Q1.**



(a)  Find the highest common factor (HCF) of 3780 and 3240   
       Give your answer as a product of prime factors.

...........................................................

**(2)**

(b)  Find the lowest common multiple (LCM) of 3780 and 3240   
       Give your answer as a product of prime factors.

...........................................................

**(2)**

**(Total for question = 4 marks)**

**Q2.**

(a) Find the Highest Common factor (HCF) of 75 and 90

...........................................................

**(2)**

(b) Find the Lowest Common Multiple (LCM) of 75 and 90

...........................................................

**(2)**

**(Total for question is 4 marks)**

**Q3.**

*A* = 23 × 32 × 54

*B* = 35 × 5 × 73

Find the Highest Common Factor (HCF) of *A* and *B*.

...........................................................

**(Total for question = 2 marks)**

**Q4.**

(a)  Find the Highest Common Factor (HCF) of 140 and 245

...........................................................

**(2)**

A machine has a buzzer that sounds every 50 minutes.   
The machine also has a bell that sounds every 80 minutes.

The buzzer and the bell sound together at 10 am.

(b)  Find the time at which they next sound together.

...........................................................

**(3)**

**(Total for question = 5 marks)**

**Q5.**

Find the Lowest Common Multiple (LCM) of 20 and 24

...........................................................

**(Total for Question is 2 marks)**

**Q6.**

Given that *A* = 23 × 3 and *B* = 22 × 32

find the Lowest Common Multiple (LCM) of *A* and *B*.

...........................................................

**(Total for question = 2 marks)**

**Q7.**

Express 825 as a product of its prime factors.

...........................................................

**(Total for Question is 3 marks)**

**Q8.**

(a)  Express 600 as a product of powers of its prime factors.

Show your working clearly.

...........................................................

**(3)**

(b)  Simplify

Give your answer as a power of 5

...........................................................

**(2)**

**(Total for question = 5 marks)**

**Q9.**

*m* = 34 × 53  
*n* = 33 × 52 × 11

(a)  Find the Lowest Common Multiple (LCM) of *m* and *n*.

...........................................................

**(2)**

(b)  Find the Highest Common Factor (HCF) of 5*m* and 3*n*.

...........................................................

**(2)**

**(Total for question = 4 marks)**

**Q10.**

*A* = 2*n* × 3 × 5*m*

Write 8*A* as a product of powers of its prime factors.

...........................................................

**(Total for question = 2 marks)**

**Q11.**

(a) Find the Highest Common Factor (HCF) of 54 and 90

...........................................................

**(2)**

(a) Find the Lowest Common Factor (LCF) of 54 and 90

...........................................................

**(2)**

**(Total for question = 4 marks)**

**Q12.**

(a)  Find the highest common factor (HCF) of 96 and 120

**(2)**

*A* = 23 × 5 × 72 × 11   
*B* = 24 × 7 × 11   
*C* = 3 × 52

(b)  Find the lowest common multiple (LCM) of *A*, *B* and *C*.

**(2)**

**(Total for question = 4 marks)**

**Q13.**

(a)  Write 23 × 24 as a single power of 2

...........................................................

**(1)**

(b)  280 = 2n × 5 × 7

Find the value of *n*.

*n* = ...........................................................

**(2)**

**(Total for Question is 3 marks)**

**Q14.**

*A* = 35 × 5 × 73  
*B* = 23 × 3 × 74

(a)  (i)  Find the Highest Common Factor (HCF) of *A* and *B*.

...........................................................

(ii)  Find the Lowest Common Multiple (LCM) of *A* and *B*.

...........................................................

**(2)**

*A* = 35 × 5 × 73  
*B* = 23 × 3 × 74  
*C* = 2*p* × 5*q* × 7*r*

Given that

the HCF of *B* and *C* is 23 × 7   
the LCM of *A* and *C* is 24 × 35 × 52 × 73

(b)  find the value of *p*, the value of *q* and the value of *r*.

*p* = ...........................................................

*q* = ...........................................................

*r* = ...........................................................

**(2)**

**(Total for question = 4 marks)**

**Q15.**

(a)   Write 252 as a product of its prime factors.

...........................................................

**(2)**

Given that   240 = 24 × 3 × 5

and that   *y* = 240 × 252

(b)   write *y* as a product of powers of its prime factors.

...........................................................

**(2)**

**(Total for Question is 4 marks)**

**Q16.**

*x* is an integer.   
The Lowest Common Multiple (LCM) of *x* and 12 is 120   
The Highest Common Factor (HCF) of *x* and 12 is 4

Work out the value of *x*.

*x* = ...........................................................

**(Total for question = 2 marks)**

**Q17.**

The highest common factor (HCF) of 140 and *x* is 20

The lowest common multiple (LCM) of 140 and *x* is 420

Find the value of *x*.

*x* = ...........................................................

**(Total for question = 2 marks)**

**Q18.**

(a)  Write 224 as a product of powers of its prime factors.   
       Show your working clearly.

...........................................................

**(3)**

(b)  Write down 3 **different** factors of 224 with a sum between 99 and 110

...........................................................

**(2)**

**(Total for question = 5 marks)**

**Q19.**

(a)  *A* = 22 × 3 × 52

*B* = 23 × 5

(i)  Find the Highest Common Factor (HCF) of *A* and *B*.

...........................................................

(ii)  Find the Lowest Common Multiple (LCM) of *A* and *B*.

...........................................................

**(3)**

(b)   = 2*n*

Find the value of *n*.

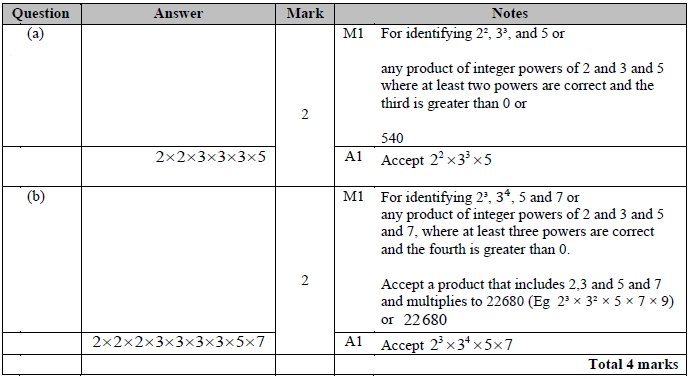
*n* = ...........................................................

**(2)**

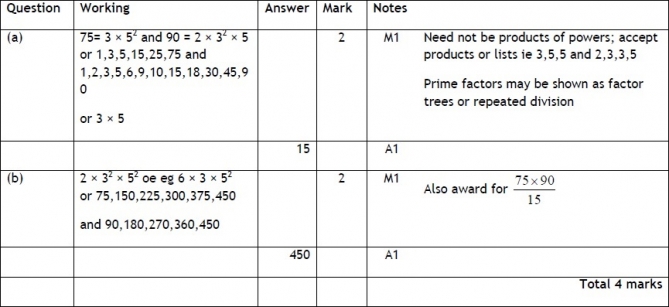
**(Total for question = 5 marks)**

**Mark Scheme**

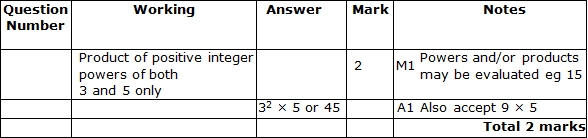
Q1.



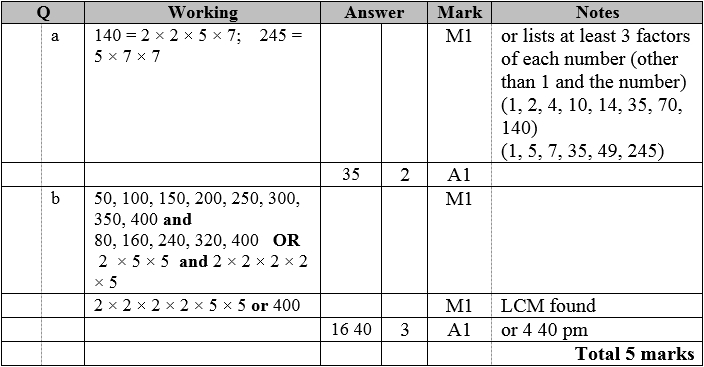
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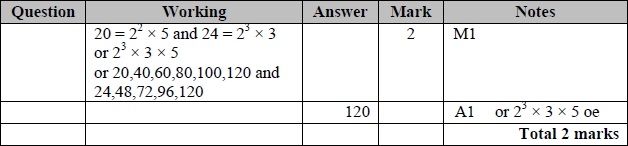
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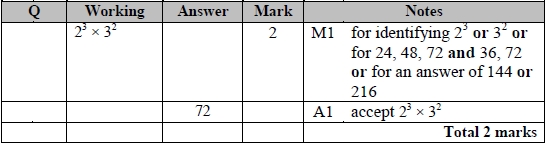
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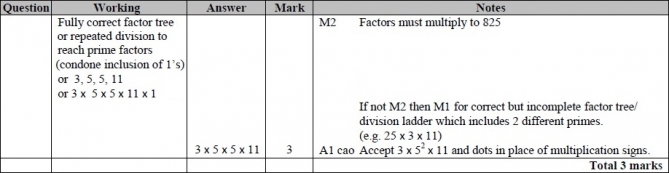
**Q5.**



**Q6.**



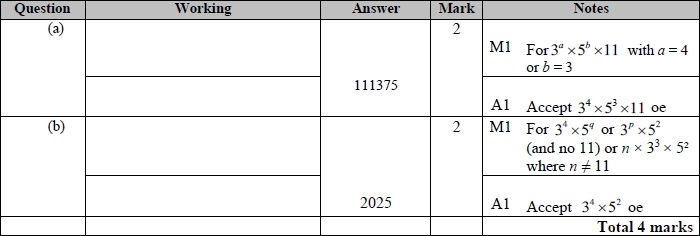
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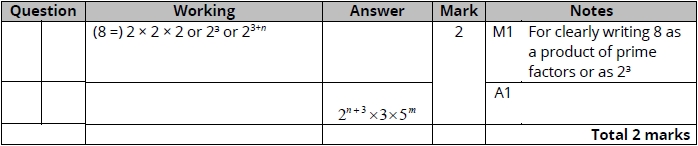
**Q8.**



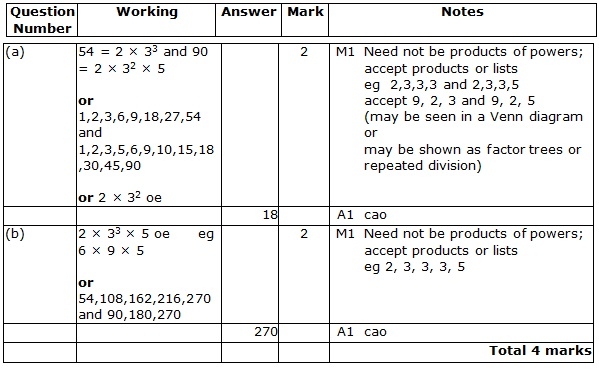
**Q9.**



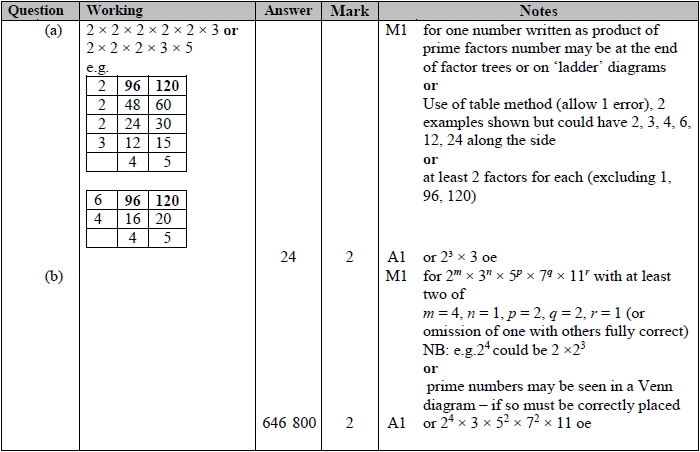
**Q10.**



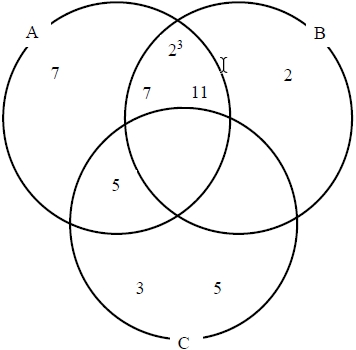
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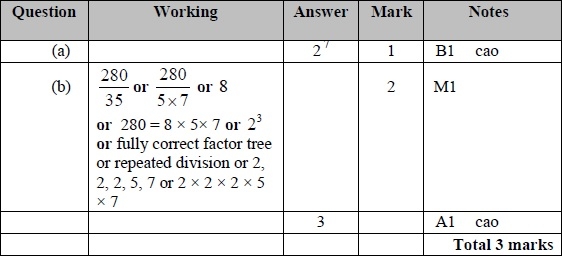
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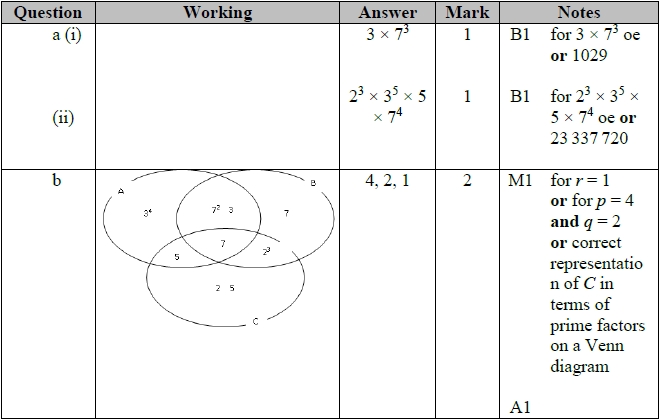
(b)



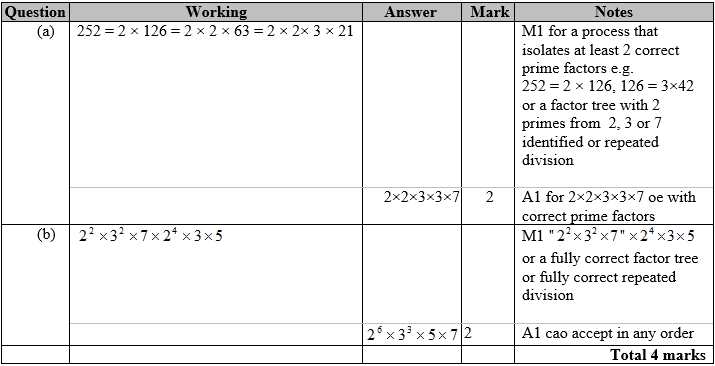
**Q13.**



**Q14.**

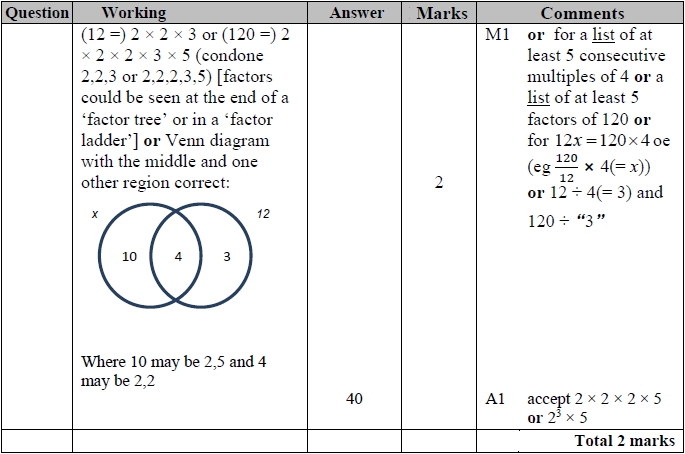


**Q15.**

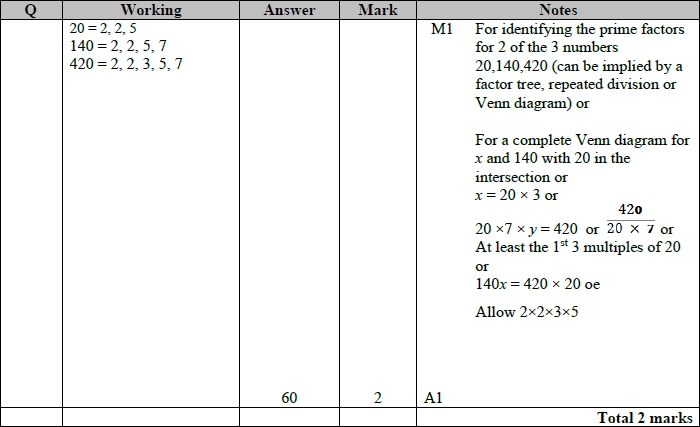


**Q16.**

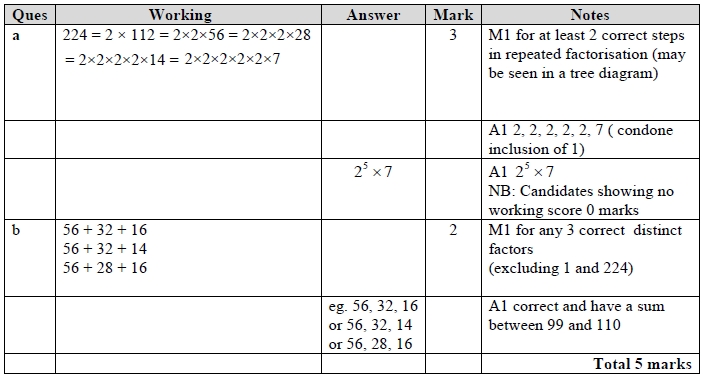
The correct answer, unless clearly obtained by an incorrect method, should be taken to imply a correct method.



**Q17.**



**Q18.**



**Q19.**

The correct answer, unless clearly obtained by an incorrect method, should be taken to imply a correct method.

