1.6 Factors, Multiples, HCF and LCM: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Solve the problem. Show your reasoning.

(a) Three teachers set out chairs in rows for an assembly. One teacher arranges them in rows of 6, another in rows of 8, the third in rows of 9. What is the smallest number of chairs that allows all three arrangements with no spare chairs? **(3)**

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2 Find the missing number given it shares factors with another number.

(a) The HCF of 12 and n is 4. One possible value of n is 20. Verify that 20 gives HCF 4 and give another possible value of n between 1 and 30. **(2)**

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3 Find two numbers with a given HCF and LCM.

(a) Find two different numbers whose HCF is 3 and whose LCM is 36. Give one pair and show the check. **(2)**

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4 Write down the first two common multiples of 10 and 3.

(2)

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Mark scheme · 1.6 Factors, Multiples, HCF and LCM: 10-minute Pack

Question 1

(a) correct use of LCM idea: LCM of 6,8,9 found by prime factors	**M1**
(a) correct prime powers: $6=2x3$, $8=2^3$, $9=3^2$ so take 2^3 and 3^2	**M1**
(a) answer 72 cao	**A1**

(a) Answer: **72**

Question 2

(a) correct check that HCF(12,20)=4 or factors listed	**M1**
(a) second value 28 or 4x7 given and justified cao	**A1**

(a) Answer: **Yes, 20 gives HCF 4; another possible value is 28**

Question 3

(a) correct pair given with method, e.g. 3x3 and 3x4 or use prime factors	**M1**
(a) correct pair such as 9 and 12 with check HCF=3 and LCM=36 cao	**A1**

(a) Answer: **9 and 12**

Question 4

multiples of 10 and 3 listed or LCM = 30 found	**M1**
30, 60 cao	**A1**

Answer: **30, 60**

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