5.2 Direct and Inverse Proportion: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Sam can type 90 words in 3 minutes. At the same rate, how many words can Sam type in 1 minute?

(Total for Question 1 is 1 mark)

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2 Direct proportion. If 5 pens cost £15, work out the cost of 8 pens.

(Total for Question 2 is 2 marks)

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3 Inverse proportion. 8 identical machines take 15 hours to complete a job. How many hours would 12 identical machines take to complete the same job, assuming they work at the same rate?

(Total for Question 3 is 3 marks)

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4 It takes 6 workers 8 hours to build a wall, all working at the same constant rate. Work out how long it would take 4 workers, working at the same rate, to build the same wall.

(Total for Question 4 is 3 marks)

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Mark scheme · 5.2 Direct and Inverse Proportion: 10-minute Pack

Question 1

30 words cao	**B1**

Answer: 30 words. (90 / 3 = 30.)

Question 2

find unit cost 15/5 = 3 or scale 15 x 8/5	**M1**
£24 cao	**A1**

Answer: £24. (Unit cost 15/5 = 3. 3 x 8 = 24.)

Question 3

use inverse proportion: time proportional to 1/machines, or compute total machine-hours 8 x 15 = 120	**M1**
divide total machine-hours by 12 to find time for 12 machines	**M1**
10 hours cao	**A1**

Answer: 10 hours. (Total work = 8 x 15 = 120 machine-hours. 120/12 = 10.)

Question 4

total worker-hours found, 6 x 8 (= 48) oe	**M1**
48 / 4	**M1**
12 (hours) cao	**A1**

Answer: 12 hours

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