

1 Express 56 as the product of its prime factors.

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(2)

2 Write 36 as a product of its prime factors.

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(2)

- 3 There are only blue pens, green pens and red pens in a box.

The ratio of the number of blue pens to the number of green pens is 2 : 5

The ratio of the number of green pens to the number of red pens is 4 : 1

There are less than 100 pens in the box.

What is the greatest possible number of red pens in the box?

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(3)

- 4 (a) Find the lowest common multiple (LCM) of 40 and 56

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(2)

$$A = 2^3 \times 3 \times 5$$

$$B = 2^2 \times 3 \times 5^2$$

- (b) Write down the highest common factor (HCF) of  $A$  and  $B$ .

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(1)

5 Here are three lamps.

lamp A



lamp B



lamp C



Lamp A flashes every 20 seconds.  
Lamp B flashes every 45 seconds.  
Lamp C flashes every 120 seconds.

The three lamps start flashing at the same time.

How many times in one hour will the three lamps flash at the same time?

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(3)

6 Find the highest common factor (HCF) of 72 and 90

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(2)

- 7 There are some small cubes and some large cubes in a bag.  
The cubes are red or the cubes are yellow.

The ratio of the number of small cubes to the number of large cubes is 4:7

The ratio of the number of red cubes to the number of yellow cubes is 3:5

- (a) Explain why the least possible number of cubes in the bag is 88

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(1)

All the small cubes are yellow.

- (b) Work out the least possible number of large yellow cubes in the bag.

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(3)

- 8 Find the Lowest Common Multiple (LCM) of 108 and 120

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(3)

9 (a) Write 84 as a product of its prime factors.

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(2)

(b) Find the lowest common multiple (LCM) of 60 and 84

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(2)

10 (a) Find the Highest Common Factor (HCF) of 60 and 84

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(2)

(b) Find the Lowest Common Multiple (LCM) of 24 and 40

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(2)