Using Venns for HCF and LCM

Using factor trees and Venn diagrams, find the highest common factor and lowest common multiple of these pairs of numbers.

(a) 25 and 40 (b) 14 and 35

(c) 28 and 42 (d) 40 and 56

(e) 54 and 90 (f) 96 and 120

(g) 45 and 225 (h) 72 and 180

(a) HCF = 5 LCM = 200
(b) HCF = 7 LCM = 70
(c) HCF = 14 LCM = 84
(d) HCF = 8 LCM = 280
(e) HCF = 18 LCM = 270
(f) HCF = 24 LCM = 480
(g) HCF = 45 LCM = 225
(h) HCF = 36 LCM = 360

(a) The dentist advises a scale every 4 months and a polish every 6 months. If Annie has a scale and polish today, when is the next time she can go for a scale and polish at the same time?

(a) In 12 months

(b) The supermarket has 24 day workers and 40 night workers. The manager needs them to split into groups where the day-time and night-time groups are the same size. What is the largest group it could be?

(b) 8

(c) A pulsar star emits light every 15 seconds and a second pulsar star emits light every 20 seconds. If Bilal sees them both flash together then how long will it be before they both flash together again?

(c) In 60 seconds

(d) India has a piece of fabric that is 336 cm by 240 cm. She wants to cut it into lots of equal-sized squares without wasting any fabric. What is the largest size square that she could cut the fabric into?

(d) 48cm x 48cm.

(a) Two numbers have a highest common factor of 8 and a lowest common multiple of 168. Find a possible pair of numbers.

(a) 8 and 168 OR 24 and 56

(b) Two numbers have a highest common factor of 6 and a lowest common multiple of 198. Find a possible pair of numbers.

(b) 6 and 198 OR 18 and 66