

Warm Up Questions

Calculate the GCF and LCM for
83160 & 26460

Greatest Common Factor

$$\begin{array}{l} 83\ 160 \rightarrow 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 7 \times 11 \\ 26\ 460 \rightarrow 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 7 \times 7 \end{array}$$

$$2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 7$$

$$= 3780$$

Least Common Multiple

$$83\ 160 \rightarrow 2 \times 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 7 \times 11$$

$$26\ 460 \rightarrow 2 \times 2 \times 3 \times 3 \times 3 \times 5 \times 7 \times 7$$

$$83\ 160 \rightarrow 2^3 \times 3^3 \times 5 \times 7 \times 11$$

$$26\ 460 \rightarrow 2^2 \times 3^3 \times 5 \times 7^2$$

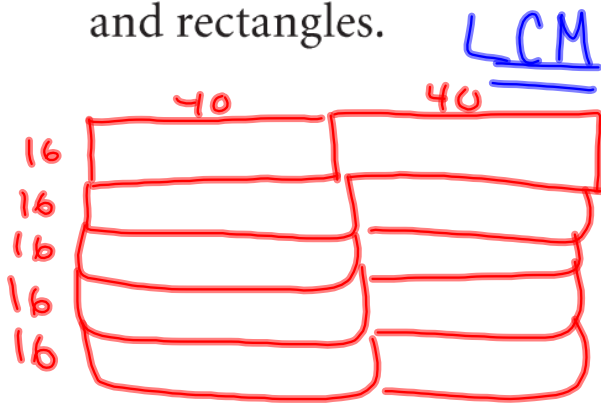
$$= 2^3 \times 3^3 \times 5 \times 7^2 \times 11$$

$$= 8 \times 27 \times 5 \times 49 \times 11$$

$$= 582\ 120$$

Solving Problems that Involve Greatest Common Factor and Least Common Multiple

- a) What is the side length of the smallest square that could be tiled with rectangles that measure 16 cm by 40 cm? Assume the rectangles cannot be cut. Sketch the square and rectangles.

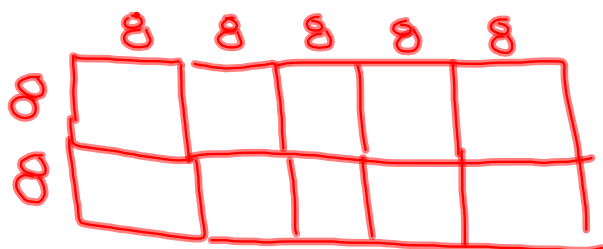
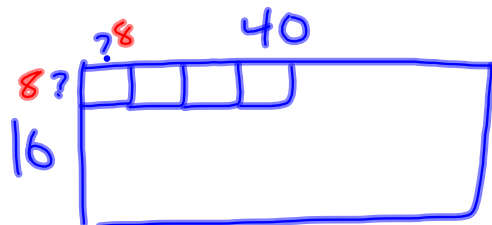


$$16 \rightarrow 2 \times 2 \times 2 \times 2$$
$$40 \rightarrow 2 \times 2 \times 2 \times 5$$

$$16 \rightarrow 2^4$$
$$40 \rightarrow 2^3 \times 5$$

$$2^4 \times 5$$
$$16 \times 5 = 80$$

- b) What is the side length of the largest square that could be used to tile a rectangle that measures 16 cm by 40 cm? Assume that the squares cannot be cut. Sketch the rectangle and squares.



GCF

$$16 \rightarrow 2 \times 2 \times 2 \times 2$$
$$40 \rightarrow 2 \times 2 \times 2 \times 5$$

$$2 \times 2 \times 2$$
$$= 8$$

**CHECK
IT OUT!**

Page 140 #9 a
 #11 a
 #13
 #17
 #19

