## Worksheet

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Problem quickname: 3333

## $\underline{1}$

Determine the lcm, the least common multiple, of the two numbers. Find the prime factorizations as in the example and derive the lcm.

a) Determine the lcm of 4 and 40. The lcm of 4 and 40 is  $40 = 2^3 \cdot 5$ .

The prime factorizations are:  $4 = 2^2$ ,  $40 = 2^3 \cdot 5^1$ .

Determination of the list of all occurring prime factors:  $\{2,5\}$ 

First number	4	=	$2^{2}$	•	$5^{0}$
Second number	40	=	$2^3$	•	$5^1$
Prime factor exponent			3 > 2		1 > 0
lcm	40	=	$2^3$	•	$5^{1}$

- b) Determine the lcm of 8 and 10.
- c) Determine the lcm of 5 and 50.
- d) Determine the lcm of 3 and 54.
- e) Determine the lcm of 8 and 12.
- f) Determine the lcm of 9 and 33.
- g) Determine the lcm of 2 and 52.
- h) Determine the lcm of 8 and 18.

## $\underline{2}$

Determine the lcm, the least common multiple, of the two numbers. Find the prime factorizations and derive the lcm.

- a) Determine the lcm of 8 and 78.
- b) Determine the lcm of 2 and 352.
- c) Determine the lcm of 28 and 50.
- d) Determine the lcm of 9 and 141.
- e) Determine the lcm of 2 and 732.
- f) Determine the lcm of 10 and 88.

- g) Determine the lcm of 4 and 350.
- h) Determine the lcm of 14 and 588.

3)

Determine the lcm, the least common multiple, of the two numbers. Find the prime factorizations as in the example and derive the lcm.

a) Determine the lcm of 8 and 23. The lcm of 8 and 23 is  $184 = 2^3 \cdot 23$ .

The prime factorizations are:  $8 = 2^3$ ,  $23 = 23^1$ .

Determination of the list of all occurring prime factors:  $\{2,23\}$ 

First number	8	=	$2^3$	•	$23^{0}$
Second number	23	=	$2^{0}$	•	$23^{1}$
Prime factor exponent			3 > 0		1 > 0
lcm	184	=	$2^{3}$	•	$23^{1}$

- b) Determine the lcm of 2 and 143.
- c) Determine the lcm of 9 and 43.
- d) Determine the lcm of 2 and 177.
- e) Determine the lcm of 6 and 35.
- f) Determine the lcm of 2 and 152.
- g) Determine the lcm of 12 and 117.
- h) Determine the lcm of 2 and 217.

## 4)

Determine the lcm, the least common multiple, of the two numbers. Find the prime factorizations as in the example and derive the lcm.

a) Determine the lcm of 3 and 27. The lcm of 3 and 27 is  $27 = 3^3$ .

The prime factorizations are:  $3 = 3^1$ ,  $27 = 3^3$ .

Determination of the list of all occurring prime factors:  $\{3\}$ 

First number	3	=	$3^{1}$
Second number	27	=	$3^{3}$
Prime factor exponent			3 > 1
lcm	27	=	$3^{3}$

- b) Determine the lcm of 5 and 9.
- c) Determine the lcm of 2 and 88.
- d) Determine the lcm of 4 and 23.

- e) Determine the lcm of 3 and 26.
- f) Determine the lcm of 27 and 81.
- g) Determine the lcm of 4 and 34.
- h) Determine the lcm of 9 and 81.

Good Luck!

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