Math worksheet on *'Prime Factorization - Is Number a Factor of Both - From Variables as Factors (Level 2)'*. Part of a broader unit on *'Factoring and Greatest Common Factor - Practice'*

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**1**

$m = 3^2 \cdot 7$

$126 = 2 \cdot 3^2 \cdot 7$
$315 = 3^2 \cdot 5 \cdot 7$

Is m a factor of both 126 and 315?

is $m$ a factor of 126 and 315?

| a | b |
|---|---|
| Yes | No |

**2**

$d = 5 \cdot 7^2$

$490 = 2 \cdot 5 \cdot 7^2$
$735 = 3 \cdot 5 \cdot 7^2$

Is d a factor of both 490 and 735?

is $d$ a factor of 490 and 735?

| a | b |
|---|---|
| Yes | No |

**3**

$b = 2 \cdot 5 \cdot 7$

$210 = 2 \cdot 3 \cdot 5 \cdot 7$
$770 = 2 \cdot 5 \cdot 7 \cdot 11$

Is b a factor of both 210 and 770?

is $b$ a factor of 210 and 770?

| a | b |
|---|---|
| Yes | No |

**4**

$y = 3^2 \cdot 7$

$126 = 2 \cdot 3^2 \cdot 7$
$315 = 3^2 \cdot 5 \cdot 7$

Is y a factor of both 126 and 315?

is $y$ a factor of 126 and 315?

| a | b |
|---|---|
| Yes | No |

**5**

$z = 2 \cdot 5^2$

$150 = 2 \cdot 3 \cdot 5^2$
$350 = 2 \cdot 5^2 \cdot 7$

Is z a factor of both 150 and 350?

is $z$ a factor of 150 and 350?

| a | b |
|---|---|
| Yes | No |

**6**

$y = 2 \cdot 3 \cdot 5$

$462 = 2 \cdot 3 \cdot 7 \cdot 11$
$910 = 2 \cdot 5 \cdot 7 \cdot 13$

Is y a factor of both 462 and 910?

is $y$ a factor of 462 and 910?

| a | b |
|---|---|
| Yes | No |

**7**

$b = 2 \cdot 5^2$

$150 = 2 \cdot 3 \cdot 5^2$
$350 = 2 \cdot 5^2 \cdot 7$

Is b a factor of both 150 and 350?

is $b$ a factor of 150 and 350?

| a | b |
|---|---|
| Yes | No |