## Unit 5 Lesson 1: Reviewing Exponents

### 1 Reviewing Exponents (Warm up)

#### Student Task Statement

Complete the table.

| expanded form | exponential form |
| --- | --- |
| $2⋅2⋅2$ | $2^{3}$ |
| $3⋅3⋅3⋅3$ |   |
|   | $5^{2}$ |
| $x⋅x⋅x⋅x⋅x⋅x⋅x$ |   |
|   | $y^{3}$ |
|   | $\left(x⋅y\right)^{2}$ |

### 2 Saving Money

#### Student Task Statement

Clare has a summer job. She wants to save money to spend on the family vacation at the end of summer. She is going to save $5 per week for each of the 10 weeks she is working.

Tyler also has a summer job and he, too, would like to save money to spend on the family vacation. He is going to start by saving $2 the first and second weeks and double the amount he saves each of the other weeks he is working ($4 the third week, $8 the fourth week, and so on).

Complete the table showing how much money each of them will have at the end of each week for the 10 weeks.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| week | 1 | 2 | 3 | 4    | 5    | 6    | 7    | 8    | 9    | 10  |  $x$ |
| Clare | 5 | 10 | 15 |   |   |   |   |   |   |   |   |
| Tyler | 2 | 4 | 8 |   |   |   |   |   |   |   |   |

### 3 Identifying Equivalent Expressions

#### Student Task Statement

Choose an expression from List A and match it with an equivalent expression from List B and from List C.

* For each match that you find, explain to your partner how you know it’s a match.
* For each match that your partner finds, listen carefully to their explanation. If you disagree, discuss your thinking and work to reach an agreement.
* Switch roles so that your partner chooses a different expression from List A and matches it with an equivalent expression from List B and from List C.

List A

$8⋅8⋅8$

$9⋅27⋅3$

$10⋅100$

$\frac{1}{4}⋅\frac{1}{4}⋅\frac{1}{2}$

$3+3+3+3+3+3$

List B

$10^{3}$

$6⋅3$

$\left(\frac{1}{2}\right)^{5}$

$3^{2}⋅3^{4}$

$2^{3}⋅4^{3}$

List C

18

$\frac{1}{32}$

512

729

1,000



© CC BY 2019 by Illustrative Mathematics®