If possible, write an explicit equation to represent each pattern below. Write your equation in two equivalent forms.

| 1. |  |
| :---: | :---: |
| $x$ | $y$ |
| 1 | 12 |
| 2 | 48 |
| 4 | 768 |
| 6 | 12288 |

2. 

| $x$ | $y$ |
| :---: | :---: |
| 0 | 1.5 |
| 2 | 96 |
| 3 | 768 |
| 4 | 6144 |

3. 

| $x$ | $y$ |
| :---: | :---: |
| -2 | -1 |
| 0 | -7 |
| 3 | -16 |
| 5 | -22 |

4. Samantha is counting the change in her tip jar each day. There is already $\$ 2.50$ in the jar. After 2, 3, and 4 days there is a total of $\$ 6.00, \$ 7.75$, and $\$ 9.50$ in her tip jar.
5. Write an explicit equation that would calculate the number of stars in a given round.


Round 3

## Write an explicit equation to represent each pattern or graph

 below. Write your equation in two equivalent forms.| 1. |  |
| :---: | :---: |
| $x$ | $y$ |
| 1 | 12 |
| 2 | 48 |
| 4 | 768 |
| 6 | 12288 |

2. 

| $x$ | $y$ |
| :---: | :---: |
| 0 | 1.5 |
| 2 | 96 |
| 3 | 768 |
| 4 | 6144 |

3. 

| $x$ | $y$ |
| :---: | :---: |
| -2 | -1 |
| 0 | -7 |
| 3 | -16 |
| 5 | -22 |

4. Samantha is counting the change in her tip jar each day. There is already $\$ 2.50$ in the jar. After 2, 3, and 4 days there is a total of $\$ 6.00, \$ 7.75$, and $\$ 9.50$ in her tip jar.
5. Write an explicit equation that would calculate the number of stars in a given round.


Round 3
6.

8.


| $3(4)^{x}$ | $1(2)^{x}$ | $4(4)^{x}$ | $-3 x-7$ | $-2 x+3$ |
| :---: | :---: | :---: | :---: | :---: |
| $2.5+1.75 x$ | $-4 \cdot 2^{x}$ | $\frac{1}{3}(3)^{x}$ | $\frac{3}{2}(8)^{x}$ |  |

6. 


8.

7.

9.


| $3(4)^{x}$ | $1(2)^{x}$ | $4(4)^{x}$ | $-3 x-7$ | $-2 x+3$ |
| :---: | :---: | :---: | :---: | :---: |
| $2.5+1.75 x$ | $-4 \cdot 2^{x}$ | $\frac{1}{3}(3)^{x}$ | $\frac{3}{2}(8)^{x}$ |  |

