

The Great Turtle Race

Materials Needed:

- Turtle Race game board
- Game Cards
- Dry erase boards/Markers/Erasers
- 6 “Turtles” (game counters) for each player

To play:

Shuffle the game cards and put them Question side up in a stack where everyone can reach them.

Each Player puts a “turtle” (game counter) in the numbered space of each lane on his/her racing card.

Players take turns drawing and answering cards. When they answer correctly, look at the number on the back of the card. The turtle in the lane with the corresponding number may move forward 1 space.







To win: First player to get a turtle of any number across the finish line wins.

Printing: landscape, 2-sided/flip on short edge, black and white



The Great Turtle Race



| | | | | | | | | |
|----------|--|--|--|--|--|--|----------------|---|
| 1 | | | | | | | Finish! |  |
| 2 | | | | | | | Finish! |  |
| 3 | | | | | | | Finish! |  |
| 4 | | | | | | | Finish! |  |
| 5 | | | | | | | Finish! |  |
| 6 | | | | | | | Finish! |  |

The Great Turtle Race

Materials Needed:

- Turtle Race game board
- Multi-Game cards
- Dry erase boards/Markers/Erasers
- 6 “Turtles” (game counters) for each player

To play:

Shuffle the game cards and put them Question side up in a stack where everyone can reach them.

Each Player puts a “turtle” (game counter) in the numbered space of each lane on his/her racing card.

Players take turns drawing and answering cards. When they answer correctly, look at the number on the back of the card. The turtle in the lane with the corresponding number may move forward 1 space.







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The Great Turtle Race



| | | | | | | | | |
|----------|--|--|--|--|--|--|----------------|---|
| 1 | | | | | | | Finish! |  |
| 2 | | | | | | | Finish! |  |
| 3 | | | | | | | Finish! |  |
| 4 | | | | | | | Finish! |  |
| 5 | | | | | | | Finish! |  |
| 6 | | | | | | | Finish! |  |

Unit: 4th - Number Patterns & Data Analysis

Lesson: 4.5.B – Number Patterns

Great Turtle Race

| <p>1</p> <p>C</p> | <p>2</p> <p>D</p> | <p>3</p> <p>D</p> | <p>4</p> <p>A</p> | <p>5</p> <p>+16</p> | <p>6</p> <table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>113</td> </tr> <tr> <td>2</td> <td>114</td> </tr> <tr> <td>3</td> <td>115</td> </tr> <tr> <td>4</td> <td>116</td> </tr> </tbody> </table> | Input | Output | 1 | 113 | 2 | 114 | 3 | 115 | 4 | 116 |
|---------------------------|---------------------------|---------------------------|---------------------------|------------------------------|---|-------|--------|---|-----|---|-----|---|-----|---|-----|
| Input | Output | | | | | | | | | | | | | | |
| 1 | 113 | | | | | | | | | | | | | | |
| 2 | 114 | | | | | | | | | | | | | | |
| 3 | 115 | | | | | | | | | | | | | | |
| 4 | 116 | | | | | | | | | | | | | | |
| <p>7</p> <p>A</p> | <p>8</p> <p>D</p> | <p>9</p> <p>B</p> | <p>10</p> <p>B</p> | <p>11</p> <p>X 6</p> | <p>12</p> <table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> </tr> <tr> <td>2</td> <td>0</td> </tr> <tr> <td>3</td> <td>0</td> </tr> <tr> <td>4</td> <td>0</td> </tr> </tbody> </table> | Input | Output | 1 | 0 | 2 | 0 | 3 | 0 | 4 | 0 |
| Input | Output | | | | | | | | | | | | | | |
| 1 | 0 | | | | | | | | | | | | | | |
| 2 | 0 | | | | | | | | | | | | | | |
| 3 | 0 | | | | | | | | | | | | | | |
| 4 | 0 | | | | | | | | | | | | | | |
| <p>13</p> <p>C</p> | <p>14</p> <p>B</p> | <p>15</p> <p>D</p> | <p>16</p> <p>B</p> | <p>17</p> <p>- 1</p> | <p>18</p> <table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>15</td> </tr> <tr> <td>2</td> <td>30</td> </tr> <tr> <td>3</td> <td>45</td> </tr> <tr> <td>4</td> <td>60</td> </tr> </tbody> </table> | Input | Output | 1 | 15 | 2 | 30 | 3 | 45 | 4 | 60 |
| Input | Output | | | | | | | | | | | | | | |
| 1 | 15 | | | | | | | | | | | | | | |
| 2 | 30 | | | | | | | | | | | | | | |
| 3 | 45 | | | | | | | | | | | | | | |
| 4 | 60 | | | | | | | | | | | | | | |
| <p>19</p> <p>D</p> | <p>20</p> <p>D</p> | <p>21</p> <p>A</p> | <p>22</p> <p>C</p> | <p>23</p> <p>X 22</p> | <p>24</p> <table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>33</td> </tr> <tr> <td>2</td> <td>34</td> </tr> <tr> <td>3</td> <td>35</td> </tr> <tr> <td>4</td> <td>36</td> </tr> </tbody> </table> | Input | Output | 1 | 33 | 2 | 34 | 3 | 35 | 4 | 36 |
| Input | Output | | | | | | | | | | | | | | |
| 1 | 33 | | | | | | | | | | | | | | |
| 2 | 34 | | | | | | | | | | | | | | |
| 3 | 35 | | | | | | | | | | | | | | |
| 4 | 36 | | | | | | | | | | | | | | |
| <p>25</p> <p>B</p> | <p>26</p> <p>A</p> | <p>27</p> <p>A</p> | <p>28</p> <p>A</p> | <p>29</p> <p>+87</p> | <p>30</p> <table border="1"> <thead> <tr> <th>Input</th> <th>Output</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>11</td> </tr> <tr> <td>2</td> <td>22</td> </tr> <tr> <td>3</td> <td>33</td> </tr> <tr> <td>4</td> <td>44</td> </tr> </tbody> </table> | Input | Output | 1 | 11 | 2 | 22 | 3 | 33 | 4 | 44 |
| Input | Output | | | | | | | | | | | | | | |
| 1 | 11 | | | | | | | | | | | | | | |
| 2 | 22 | | | | | | | | | | | | | | |
| 3 | 33 | | | | | | | | | | | | | | |
| 4 | 44 | | | | | | | | | | | | | | |

1. The table shows a relationship between the position of a number in a pattern and its value.

| Position | Expression | Value |
|----------|------------|-------|
| 1 | | 21 |
| 2 | | 42 |
| 3 | | 63 |
| 4 | | 84 |

Which set of expressions shows how to find the value when given the position?

A.

| Expression |
|------------|
| $21 - 20$ |
| $42 - 20$ |
| $63 - 20$ |
| $84 - 20$ |

B.

| Expression |
|------------|
| $1 + 20$ |
| $2 + 20$ |
| $3 + 20$ |
| $4 + 20$ |

C.

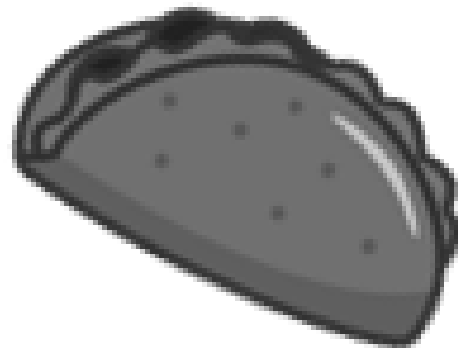
| Expression |
|---------------|
| 1×21 |
| 2×21 |
| 3×21 |
| 4×21 |

D.

| Expression |
|--------------|
| 1×2 |
| 2×2 |
| 3×2 |
| 4×2 |

1

Purple



2. The table shows a relationship between input numbers and output numbers.

Number Machine

| Input | Output |
|-------|--------|
| 1 | 10 |
| 2 | 11 |
| 3 | 12 |
| 4 | 13 |

Which rule can be used to find the output number when the input number is given?

- A. -9
- B. $\times 10$
- C. $\times 4$
- D. $+9$

2

Red



3. A number pattern begins with these values:

6,12,18,24, ...

Which table correctly represents the relationship between the position of a number in the pattern and the value of that number?

A.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 6 | 6×1 | 6 |
| 12 | 12×1 | 12 |
| 18 | 18×1 | 18 |
| 24 | 24×1 | 24 |

B.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 6 | $6 \div 6$ | 1 |
| 12 | $12 \div 6$ | 2 |
| 18 | $18 \div 6$ | 3 |
| 24 | $24 \div 6$ | 4 |

C.

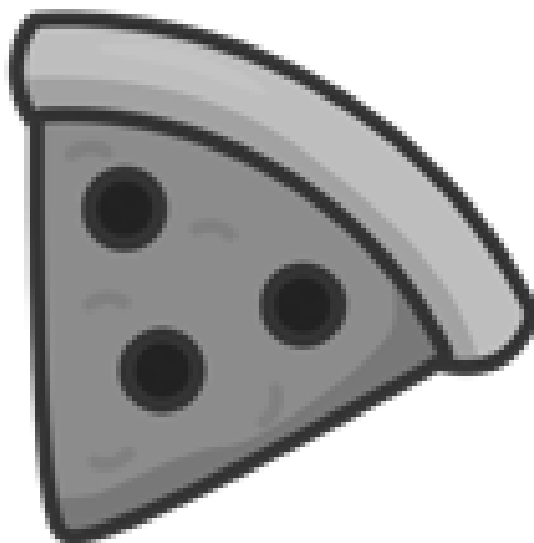
| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $1 + 6$ | 7 |
| 2 | $2 + 6$ | 8 |
| 3 | $3 + 6$ | 9 |
| 4 | $4 + 6$ | 10 |

D.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | 1×6 | 6 |
| 2 | 2×6 | 12 |
| 3 | 3×6 | 18 |
| 4 | 4×6 | 24 |

3

Yellow

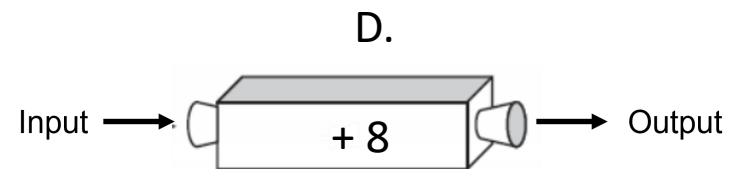
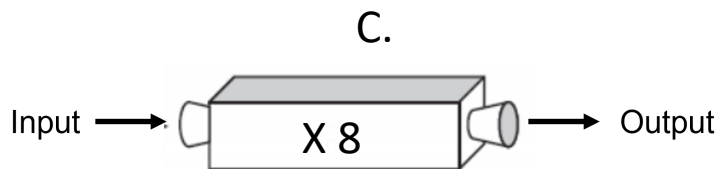
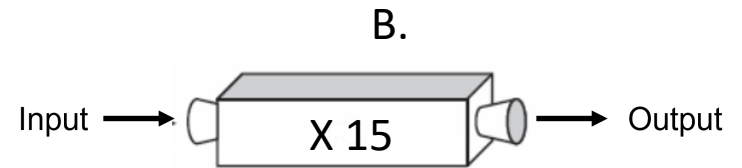
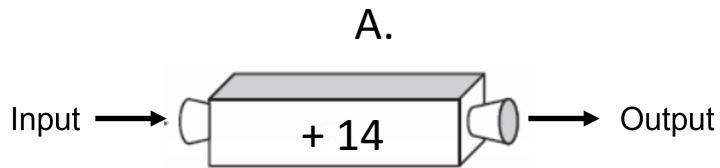


4. The table shows a relationship between input numbers and output numbers.

Number Machine

| Input | Output |
|-------|--------|
| 1 | 15 |
| 2 | 16 |
| 3 | 17 |
| 4 | 18 |

Which number machine shows the same relationship as the one shown in the table?



4

Blue

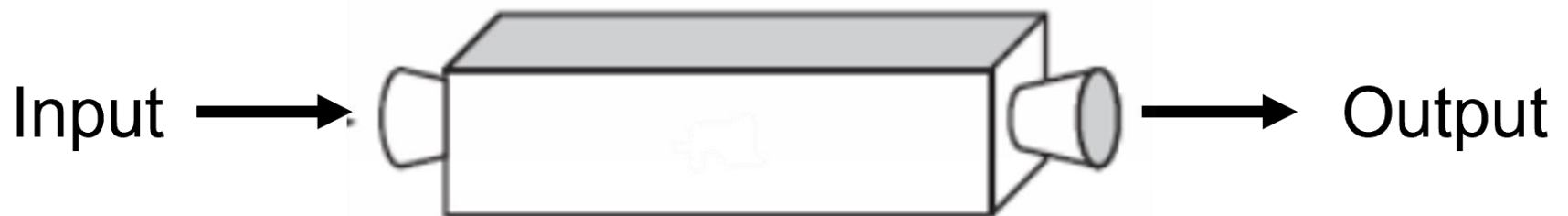


5. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

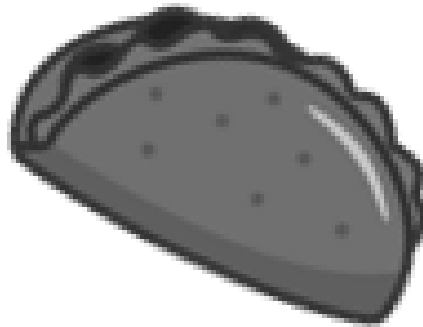
| Input | Output |
|-------|--------|
| 1 | 17 |
| 2 | 18 |
| 3 | 19 |
| 4 | 20 |

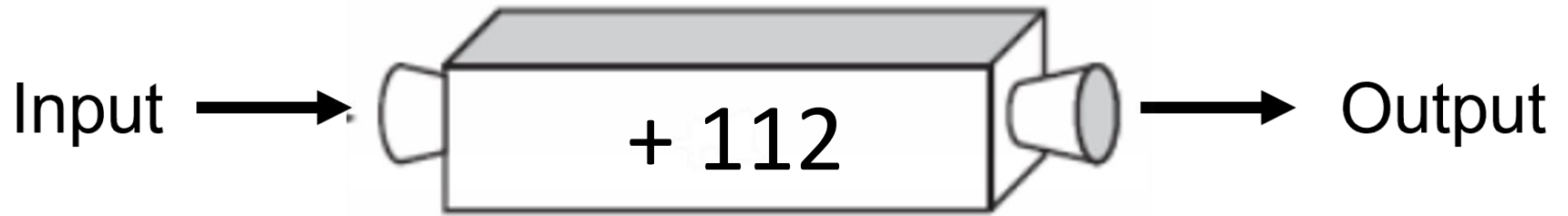
What rule belongs in the number machine to create the table above?



5

Green





6. Given the number machine above, what numbers belong in the output column of the table below?

Number Machine

| Input | Output |
|-------|--------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

6

PRYBG



7. The table shows a relationship between the position of a number in a pattern and its value.

| Position | Expression | Value |
|----------|------------|-------|
| 1 | | 6 |
| 2 | | 12 |
| 3 | | 18 |
| 4 | | 24 |

Which set of expressions shows how to find the value when given the position?

A.

| Expression |
|--------------|
| 1×6 |
| 2×6 |
| 3×6 |
| 4×6 |

B.

| Expression |
|------------|
| $1 + 5$ |
| $7 + 5$ |
| $13 + 5$ |
| $19 + 5$ |

C.

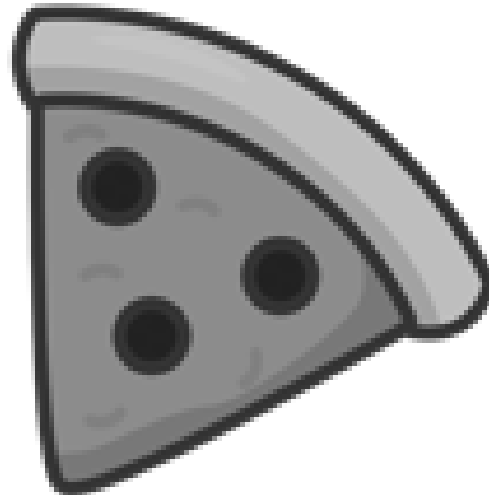
| Expression |
|------------|
| $7 - 1$ |
| $14 - 2$ |
| $21 - 3$ |
| $28 - 4$ |

D.

| Expression |
|------------|
| $1 + 6$ |
| $2 + 6$ |
| $3 + 6$ |
| $4 + 6$ |

1

Purple



8. The table shows a relationship between the position of a number in a pattern and its value.

| Position | Value |
|----------|-------|
| 1 | 33 |
| 2 | 34 |
| 3 | 35 |
| 4 | 36 |

Which rule shows how to find the value when given the position?

- A. $\times 33$
- B. -32
- C. $\div 33$
- D. $+ 32$

2

Red



9. A number pattern begins with these values:

8,16,24,32...

Which table correctly represents the relationship between the position of a number in the pattern and the value of that number

A.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $1 + 8$ | 9 |
| 2 | $2 + 8$ | 10 |
| 3 | $3 + 8$ | 11 |
| 4 | $4 + 8$ | 12 |

B.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | 1×8 | 8 |
| 2 | 2×8 | 16 |
| 3 | 3×8 | 24 |
| 4 | 4×8 | 32 |

C.

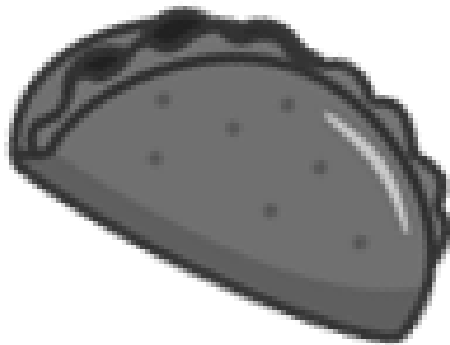
| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 8 | $8 + 0$ | 8 |
| 16 | $16 + 0$ | 16 |
| 24 | $24 + 0$ | 24 |
| 32 | $32 + 0$ | 32 |

D.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 8 | 8×1 | 8 |
| 16 | 16×1 | 16 |
| 24 | 24×1 | 24 |
| 32 | 32×1 | 32 |

3

Yellow



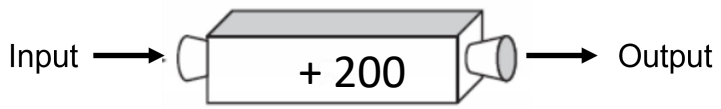
10. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

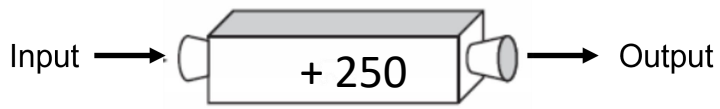
| Input | Output |
|-------|--------|
| 1 | 251 |
| 2 | 252 |
| 3 | 253 |
| 4 | 254 |

Which number machine shows the same relationship as the one shown in the table?

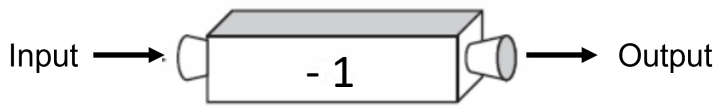
A.



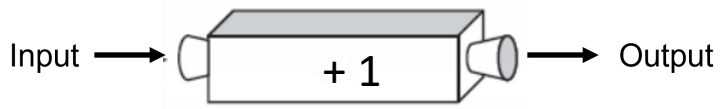
B.



C.

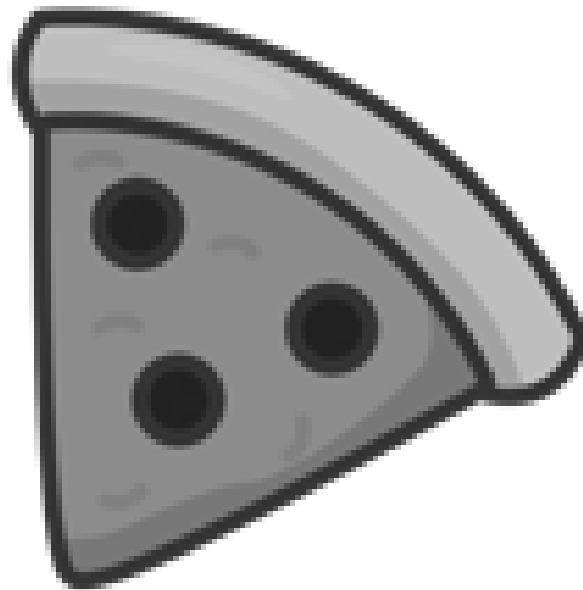


D.



3

Yellow

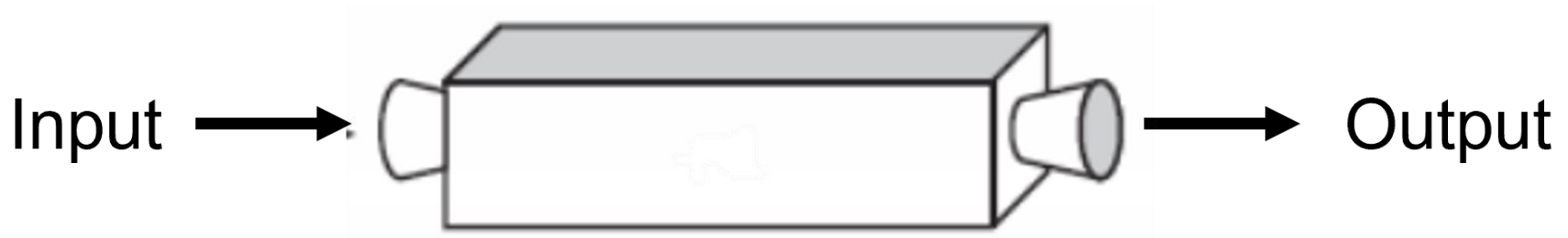


11. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

| Input | Output |
|-------|--------|
| 1 | 6 |
| 2 | 12 |
| 3 | 18 |
| 4 | 24 |

What rule belongs in the number machine to create the table above?



4

Blue





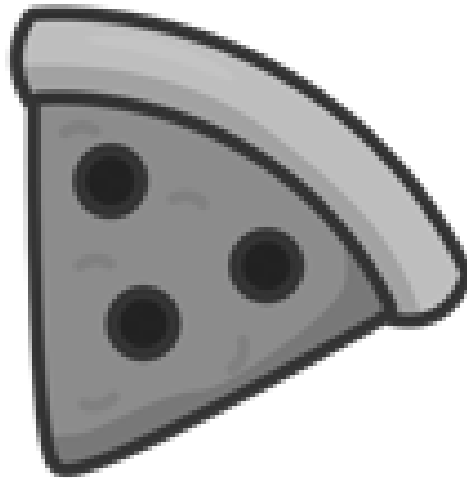
12. Given the number machine above, what numbers belong in the output column of the table below?

Number Machine

| Input | Output |
|-------|--------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

5

Green



13. The table shows a relationship between the position of a number in a pattern and its value.

| Position | Expression | Value |
|----------|------------|-------|
| 1 | | 58 |
| 2 | | 59 |
| 3 | | 60 |
| 4 | | 61 |

Which set of expressions shows how to find the value when given the position?

A.

| Expression |
|------------|
| $59 - 1$ |
| $59 - 2$ |
| $59 - 3$ |
| $59 - 4$ |

B.

| Expression |
|------------|
| $1 + 57$ |
| $2 + 58$ |
| $3 + 59$ |
| $4 + 60$ |

C.

| Expression |
|------------|
| $1 + 57$ |
| $2 + 57$ |
| $3 + 57$ |
| $4 + 57$ |

D.

| Expression |
|------------|
| $1 + 57$ |
| $1 + 58$ |
| $1 + 59$ |
| $1 + 60$ |

6

PRYBG



14. The table shows a relationship between the position of a number in a pattern and its value.

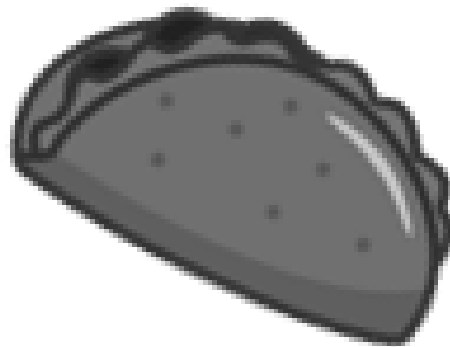
| Position | Value |
|----------|-------|
| 1 | 12 |
| 2 | 24 |
| 3 | 36 |
| 4 | 48 |

Which rule shows how to find the value when given the position?

- A. $+ 12$
- B. $\times 12$
- C. $\div 12$
- D. $\times 4$

1

Purple



15. The rule +38 is used to show the relationship between the position of a number in a pattern and the value f that number. Which table shows this relationship?

A.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 38 | $38 + 1$ | 39 |
| 38 | $38 + 2$ | 40 |
| 38 | $38 + 3$ | 41 |
| 38 | $38 + 4$ | 42 |

B.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 38 | 38×1 | 38 |
| 38 | $38 + 0$ | 38 |
| 38 | $38 \div 1$ | 38 |
| 38 | $38 - 0$ | 38 |

C.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $1 + 37$ | 38 |
| 2 | $2 + 36$ | 38 |
| 3 | $3 + 35$ | 38 |
| 4 | $4 + 34$ | 38 |

D.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $1 + 38$ | 39 |
| 2 | $2 + 38$ | 40 |
| 3 | $3 + 38$ | 41 |
| 4 | $4 + 38$ | 42 |

4

Blue

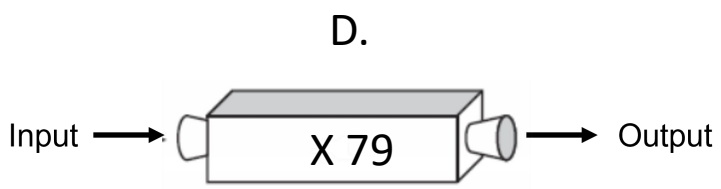
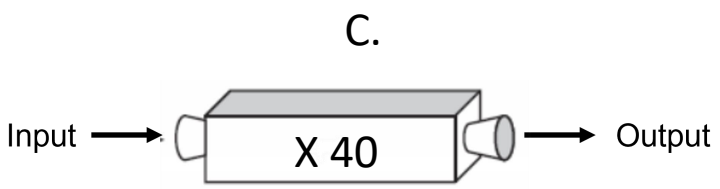
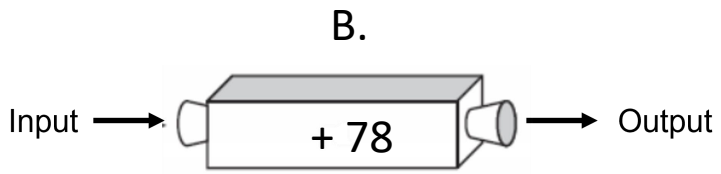
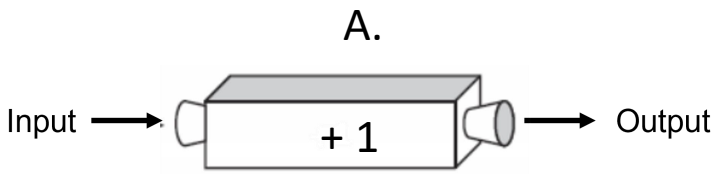


16. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

| Input | Output |
|-------|--------|
| 1 | 79 |
| 2 | 80 |
| 3 | 81 |
| 4 | 82 |

Which number machine shows the same relationship as the one shown in the table?



2

Red

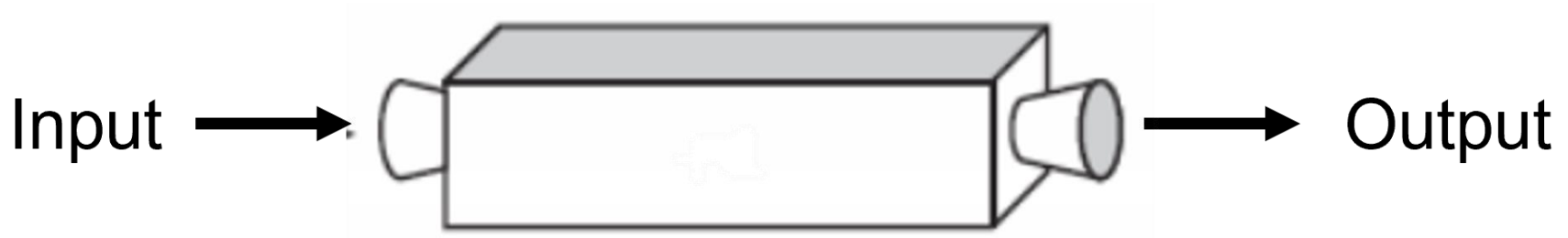


17. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

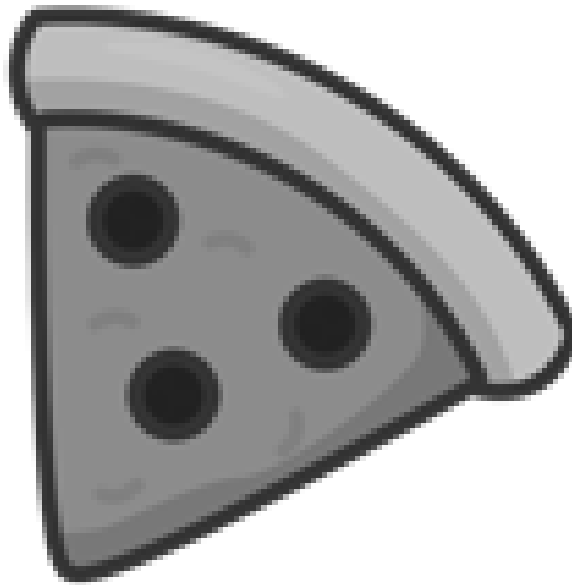
| Input | Output |
|-------|--------|
| 1 | 0 |
| 2 | 1 |
| 3 | 2 |
| 4 | 3 |

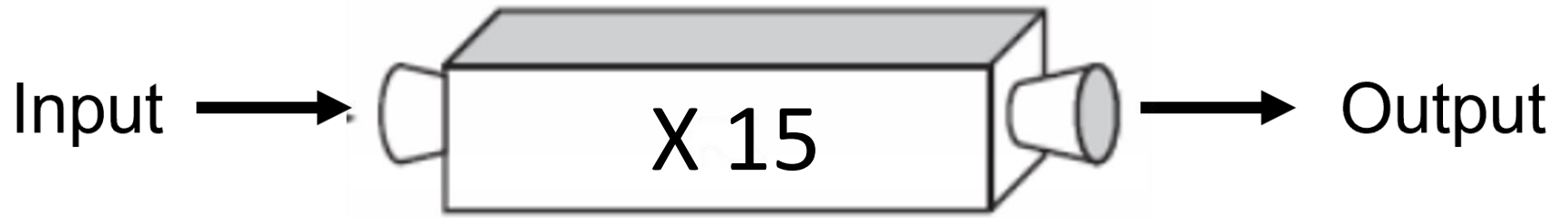
What rule belongs in the number machine to create the table above?



3

Yellow





18. Given the number machine above, what numbers belong in the output column of the table below?

Number Machine

| Input | Output |
|-------|--------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

4

Blue



19. The table shows a relationship between the position of a number in a pattern and its value.

| Position | Expression | Value |
|----------|------------|-------|
| 1 | | 18 |
| 2 | | 36 |
| 3 | | 54 |
| 4 | | 72 |

Which set of expressions shows how to find the value when given the position?

A.

| Expression |
|--------------|
| 2×9 |
| 4×9 |
| 6×9 |
| 8×9 |

B.

| Expression |
|------------|
| $1 + 17$ |
| $2 + 34$ |
| $3 + 51$ |
| $4 + 68$ |

C.

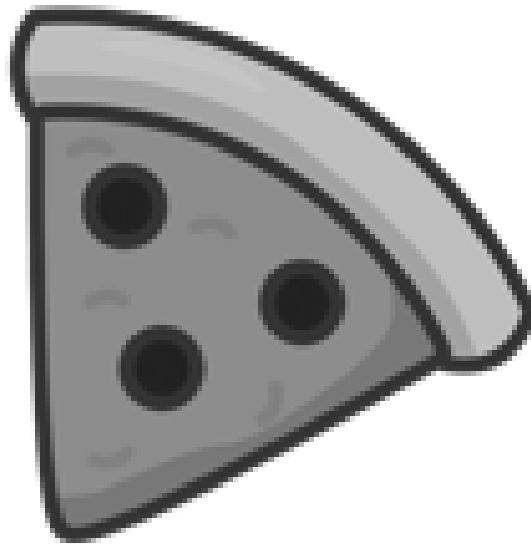
| Expression |
|---------------|
| 3×6 |
| 6×6 |
| 9×6 |
| 12×6 |

D.

| Expression |
|---------------|
| 1×18 |
| 2×18 |
| 3×18 |
| 4×18 |

5

Green



20. The table shows a relationship between the position of a number in a pattern and its value.

| Position | Value |
|----------|-------|
| 1 | 28 |
| 2 | 29 |
| 3 | 30 |
| 4 | 31 |

Which rule shows how to find the value when given the position?

- A. $\times 28$
- B. $\times 7$
- C. $- 27$
- D. $+ 27$

6

PRYBG



21. The rule X 11 is used to show the relationship between the position of a number in a pattern and the value of that number. Which table shows this relationship?

A.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | 1×11 | 11 |
| 2 | 2×11 | 22 |
| 3 | 3×11 | 33 |
| 4 | 4×11 | 44 |

B.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 38 | 38×1 | 38 |
| 38 | $38 + 0$ | 38 |
| 38 | $38 \div 1$ | 38 |
| 38 | $38 - 0$ | 38 |

C.

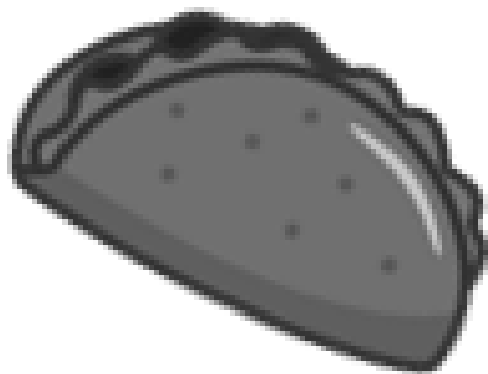
| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $1 + 37$ | 38 |
| 2 | $2 + 36$ | 38 |
| 3 | $3 + 35$ | 38 |
| 4 | $4 + 34$ | 38 |

D.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $1 + 38$ | 39 |
| 2 | $2 + 38$ | 40 |
| 3 | $3 + 38$ | 41 |
| 4 | $4 + 38$ | 42 |

5

Green

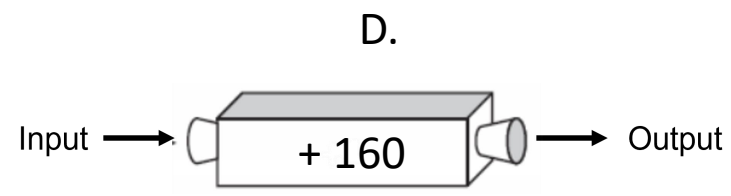
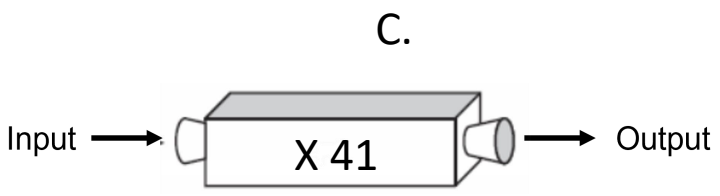
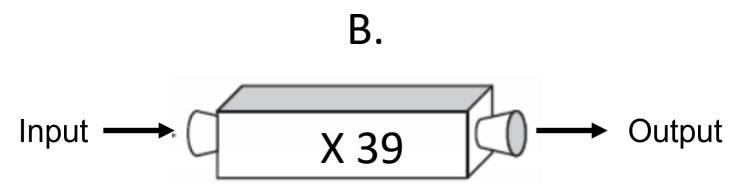
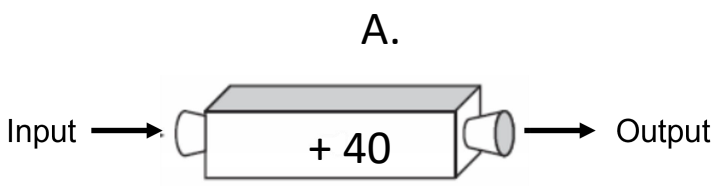


22. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

| Input | Output |
|-------|--------|
| 1 | 41 |
| 2 | 82 |
| 3 | 123 |
| 4 | 164 |

Which number machine shows the same relationship as the one shown in the table?



2

Red

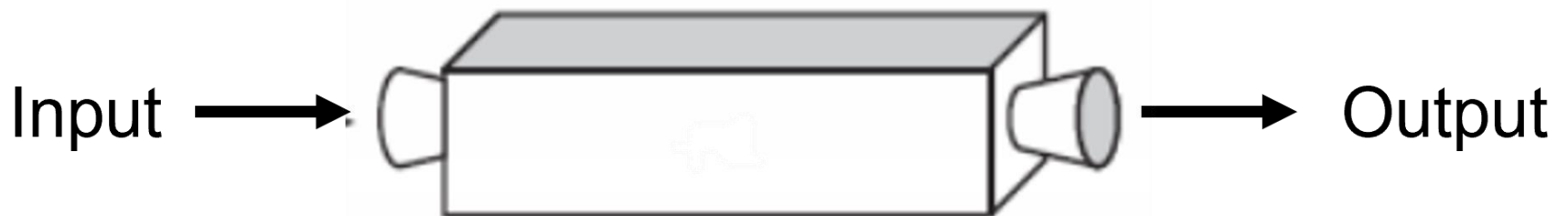


23. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

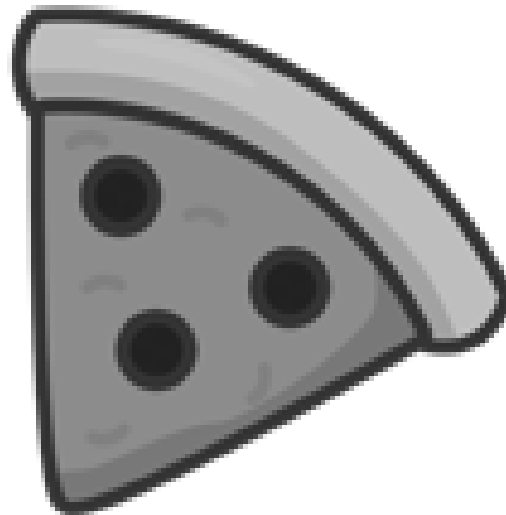
| Input | Output |
|-------|--------|
| 1 | 22 |
| 2 | 44 |
| 3 | 66 |
| 4 | 88 |

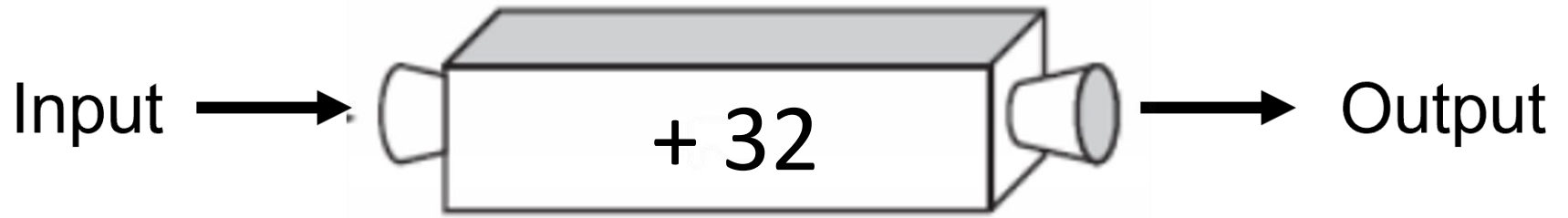
What rule belongs in the number machine to create the table above?



1

Purple





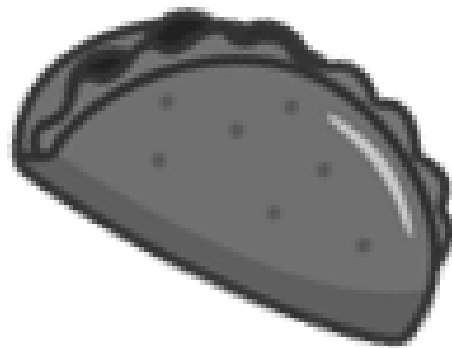
24. Given the number machine above, what numbers belong in the output column of the table below?

Number Machine

| Input | Output |
|-------|--------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

3

Yellow



25. The table shows a relationship between the position of a number in a pattern and its value.

| Position | Expression | Value |
|----------|------------|-------|
| 1 | | 14 |
| 2 | | 15 |
| 3 | | 16 |
| 4 | | 17 |

Which set of expressions shows how to find the value when given the position?

A.

| Expression |
|------------|
| $14 - 1$ |
| $15 - 2$ |
| $16 - 3$ |
| $17 - 4$ |

B.

| Expression |
|------------|
| $1 + 13$ |
| $2 + 13$ |
| $3 + 13$ |
| $4 + 13$ |

C.

| Expression |
|--------------|
| 2×7 |
| 3×5 |
| 4×4 |
| 5×4 |

D.

| Expression |
|------------|
| $10 + 4$ |
| $10 + 5$ |
| $10 + 6$ |
| $10 + 7$ |

4

Blue



26. The table shows a relationship between the position of a number in a pattern and its value.

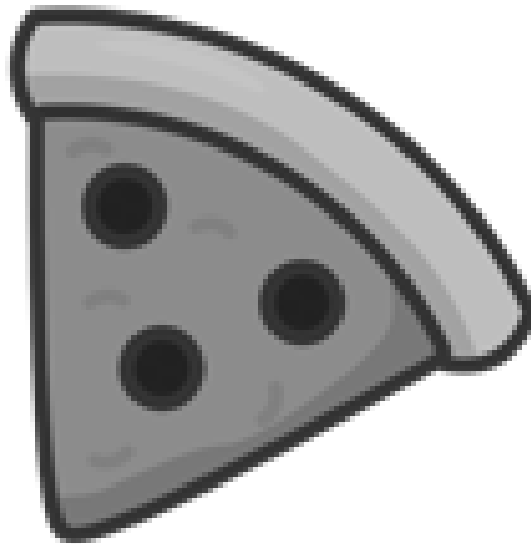
| Position | Value |
|----------|-------|
| 1 | 1 |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |

Which rule shows how to find the value when given the position?

- A. $+ 0$
- B. $\times 0$
- C. $+ 1$
- D. $- 1$

5

Green



27. A number pattern begins with these values:
 16, 17, 18 19...

Which table correctly represents the relationship between the position of a number in the pattern and the value of that number

A.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $1 + 15$ | 16 |
| 2 | $2 + 15$ | 17 |
| 3 | $3 + 15$ | 18 |
| 4 | $4 + 15$ | 19 |

B.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 16 | $16 - 1$ | 15 |
| 17 | $17 - 2$ | 15 |
| 18 | $18 - 3$ | 15 |
| 19 | $19 - 4$ | 15 |

C.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | $17 - 1$ | 16 |
| 2 | $19 - 2$ | 17 |
| 3 | $21 - 3$ | 18 |
| 4 | $25 - 4$ | 19 |

D.

| Position | Numerical Expression | Value |
|----------|----------------------|-------|
| 1 | 1×16 | 16 |
| 2 | 1×17 | 17 |
| 3 | 1×18 | 18 |
| 4 | 1×19 | 19 |

6

PRYBG

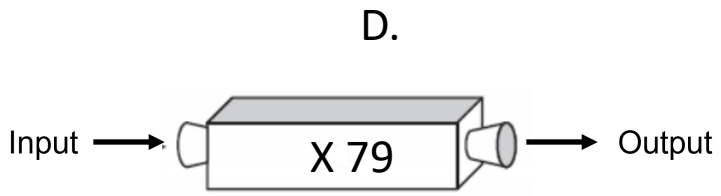
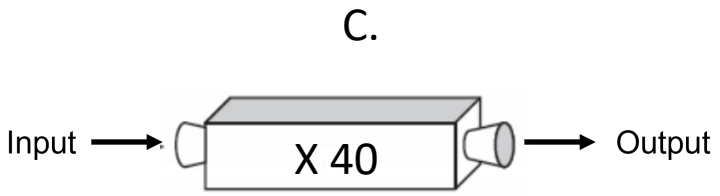
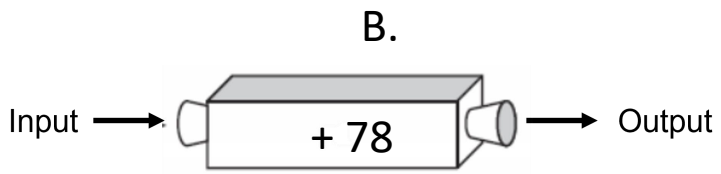
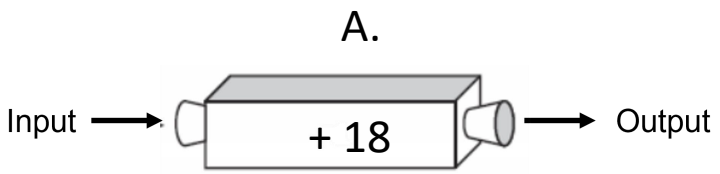


28. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

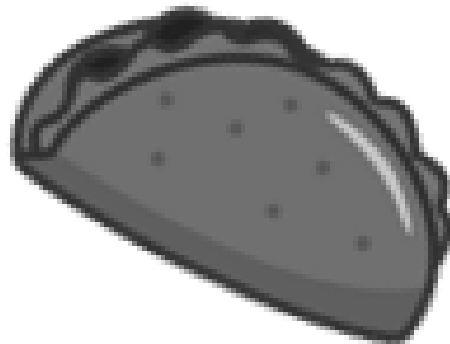
| Input | Output |
|-------|--------|
| 1 | 19 |
| 2 | 20 |
| 3 | 21 |
| 4 | 23 |

Which number machine shows the same relationship as the one shown in the table?



1

Purple

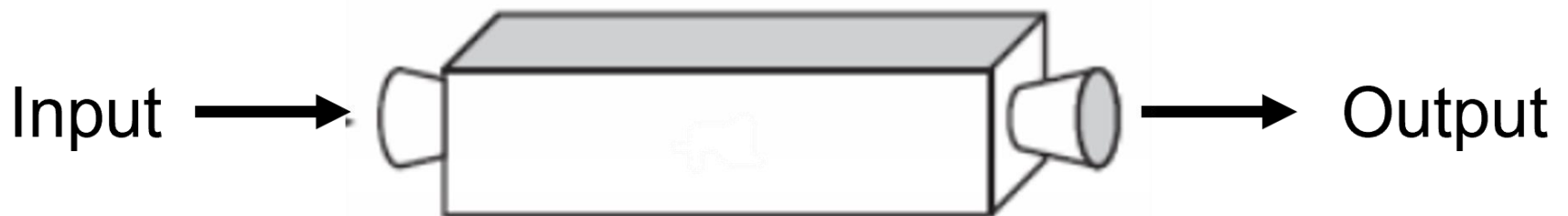


29. The table shows a relationship between input numbers and output numbers generated by a number Machine.

Number Machine

| Input | Output |
|-------|--------|
| 1 | 88 |
| 2 | 89 |
| 3 | 90 |
| 4 | 91 |

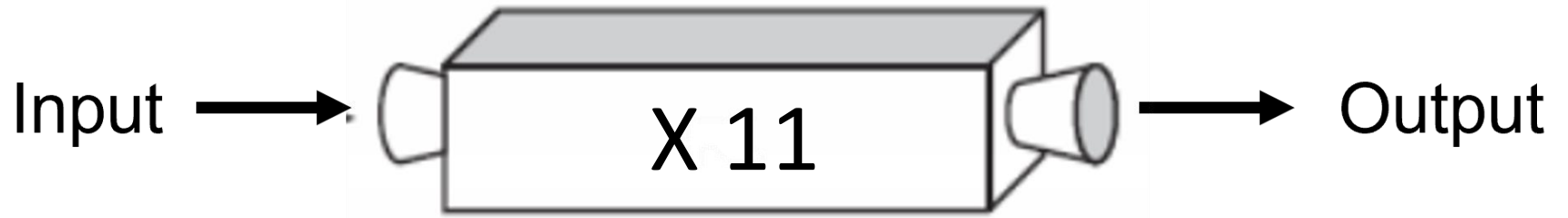
What rule belongs in the number machine to create the table above?



2

Red





30. Given the number machine above, what numbers belong in the output column of the table below?

Number Machine

| Input | Output |
|-------|--------|
| 1 | |
| 2 | |
| 3 | |
| 4 | |

3

Yellow

