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## Skills Maintenance

Algebraic Patterns

## Activity 1

Select the set of boxes that represents the algebraic pattern. The variable $n$ represents the box number.

1. $5 \cdot n$
(a)

| Box 1 | Box 2 | Box 3 | Box 4 |
| :---: | :---: | :---: | :---: |
| 00000 | 0000 | 000 | 00 |

(b)

| Box 1 | Box 2 | Box 3 | Box 4 |
| :---: | :---: | :---: | :---: |
|  |  |  | OOOO |
| OO | OOOO | OOOOOO |  |
| OOOO |  |  |  |
|  |  |  | OOOO |

(c)

| Box 1 | Box 2 | Box 3 | Box 4 |
| :---: | :---: | :---: | :---: |
| 00000 | $\begin{aligned} & \text { OOOOO } \\ & \text { OOOOO } \end{aligned}$ | $\begin{aligned} & \text { OOOOO } \\ & \text { OOOOO } \\ & \text { OOOOO } \end{aligned}$ | $\begin{aligned} & \text { OOOOO } \\ & \text { OOOOO } \\ & \text { OOOOO } \\ & \text { OOOOO } \end{aligned}$ |

2. $n \cdot 3$
(a)

| Box 1 | Box 2 | Box 3 | Box 4 |
| :---: | :---: | :---: | :---: |
|  | 0 | 00 | 000 |

(b)

| Box 1 | Box 2 | Box 3 | Box 4 |
| :---: | :---: | :---: | :---: |
| 000 | 000000 | 000000 | 000000 |
| 000 | 000000 |  |  |

(c)

| Box 1 | Box 2 | Box 3 | Box 4 |
| :---: | :---: | :---: | :---: |
| 0000 | 000 | 00 | 0 |

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$\qquad$

| 3. $10 \cdot n$ <br> (a) | Box 1 | Box 2 | Box 3 | Box 4 |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{aligned} & \text { OOOOO } \\ & \text { OOOOO } \end{aligned}$ | $\begin{aligned} & \text { OOOOO } \\ & \text { OOOOO } \\ & \text { OOOOO } \\ & \text { OOOOO } \end{aligned}$ | $\begin{aligned} & \text { OOOOO } \\ & \text { OOOOOO } \\ & \text { OOOOO } \\ & \text { OOOOOO } \\ & \text { OOOOO } \\ & \text { OOOO } \end{aligned}$ | 00000 00000 00000 00000 00000 0000 00000 00000 |
| (b) | Box 1 | Box 2 | Box 3 | Box 4 |
|  | 000 | 0000 | 00000 | 000000 |
| (c) | Box 1 | Box 2 | Box 3 | Box 4 |
|  | $\begin{aligned} & \text { OOOOO } \\ & \text { OOOOO } \end{aligned}$ | $\begin{aligned} & \text { OOOO } \\ & \text { OOOO } \end{aligned}$ | 000000 | 0000 |

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## Problem-Solving Activity

## Comparing Ratios

Look at the pairs of ratios in the problems. Cross out the ratio that needs to be changed so you can compare the two ratios. Then write the equivalent ratio. Circle what is the same in the pair of ratios-cost or quantity.


1. $\begin{array}{ll}\text { sweaters } \\ \text { cost } & \frac{3}{\$ 18} \quad \frac{5}{\$ 36}\end{array}$

What is the same? (circle one) COST or QUANTITY
2. $\begin{aligned} & \text { dozen muffins } \\ & \text { cost }\end{aligned} \frac{4}{\$ 15} \quad \frac{8}{\$ 25}$

What is the same? (circle one) COST or QUANTITY
3. $\frac{\text { pairs of jeans }}{\text { cost }} \quad \frac{6}{\$ 100} \quad \frac{3}{\$ 40}$

What is the same? (circle one) COST or QUANTITY
$\qquad$
4. $\frac{\text { apples }}{\text { cost }} \frac{12}{\$ 6}$ $\frac{24}{\$ 10}$

What is the same? (circle one) COST or QUANTITY
5. $\begin{aligned} \text { pairs of shoes } \\ \text { cost }\end{aligned} \frac{4}{\$ 120} \quad \frac{2}{\$ 80}$

What is the same? (circle one) COST or QUANTITY
6. $\frac{\text { soft drinks }}{\operatorname{cost}} \frac{6 \text { pack }}{\$ 2} \quad \frac{8 \text { pack }}{\$ 6}$

What is the same? (circle one) COST or QUANTITY

