1. The perimeter of a square is 64 meters. Find the area of the square.

2. Use the figure below. What is the area of the shaded square?

![Diagram of a square with side length 20 cm]

[A] 100 cm²  [B] 200 cm²  [C] 50 cm²  [D] 400 cm²

3. A frame shop wants to cut a square hole in a mat 16 in. by 7 in. If each side of the hole is $x$ in., which equation represents the remaining area?

[A] $a = -x^2 + 46$  [B] $a = -x^2 + 112$

[C] $a = x^2 + 112$  [D] $a = x^2 + 16$

4. The formula for the area of a square is $A = s^2$. Write an expression for the area of a square in which $s = 4x^4$.

5. The area of a square is 200 cm². How long is the diagonal?

[A] 141.4 cm  [B] 20 cm  [C] 28.2 cm  [D] 14.1 cm  [E] none of the above

6. A solar energy collector needs several 3 in. by 3 in. square panels to cover an area 14 ft by 6 ft. How many of the square panels are needed?


7. The sides of a square are each decreased by 2 inches. The area of the new square is 25 square inches. Find the length of a side of the original square.

8. Use the figure above. How does the figure’s area change when the length is increased by one inch and the width is decreased by one inch?

9. The base of the Great Pyramid in Egypt is a square whose sides measure about 752 ft. Estimate the area in acres of the base of the Great Pyramid to the nearest hundredth. (Hint: 1 acre = 43,560 ft$^2$.)


10. Brigid hired a tile setter to tile her bathroom floor. The tile setter charged Brigid $1.50 per tile to install the tiles. Each tile is four inches square, and Brigid’s bathroom floor has an area of 75 square feet. If the total bill is $1000, was Brigid overcharged?

11. Compare the quantities in Column A and Column B.

<table>
<thead>
<tr>
<th>Column A</th>
<th>Column B</th>
</tr>
</thead>
<tbody>
<tr>
<td>the length of a side of a square with area 8 cm$^2$</td>
<td>the length of the base of a triangle with area 8 cm$^2$ whose base and height are equal lengths</td>
</tr>
</tbody>
</table>

[A] The quantity in Column A is greater.  [B] The quantity in Column B is greater.
[C] The quantities are equal.
[D] The relationship cannot be determined from the information given.
[1] 256 m$^2$

[2] B

[3] B

[4] $16x^8$

[5] B

[6] B

[7] 7 inches

[8] D

[9] C

No. There are 9 tile per square foot;

[10] $9 \cdot 75 \cdot 1.50 = $1012.50.$