

Unit 1: Areas

ADVANCED

Name: _____

Date: _____

Show all work. Give each area or surface area with correct units understood; write fractions like $\frac{3}{4}$ and mixed numbers like $125\frac{2}{3}$.

1. A parallelogram has a base of $14\frac{1}{2}$ units and a corresponding height of $8\frac{2}{3}$ units. Find its area.

Answer: _____

3. A triangle has an area of 84 square units and a height of 10.5 units. Find the length of the base corresponding to that height.

Answer: _____

5. Find the total surface area of a cube with edge length 7 units.

Answer: _____

7. A triangular prism has right-triangle bases with legs 6 units and 8 units (hypotenuse 10 units) and a length of 15 units. Find its total surface area.

Answer: _____

9. A rectangle measuring 20 units by 12 units has a triangular piece with base 8 units and height 6 units cut out of it. Find the area of the remaining figure.

Answer: _____

11. A triangle has vertices at $(-3, -2)$, $(5, -2)$, and $(1, 7)$. Find its area.

Answer: _____

2. A triangle has a base of $9\frac{3}{4}$ units and a height of 12 units. Find its area.

Answer: _____

4. Find the total surface area of a rectangular prism with dimensions 8 units by 5 units by 3 units.

Answer: _____

6. A triangle has vertices at $(0, 0)$, $(6, 0)$, and $(2, 5)$. Find its area.

Answer: _____

8. A parallelogram has an area of 156 square units and a base of 13 units. Find the height corresponding to that base.

Answer: _____

10. A square pyramid has a base with side length 10 units and four triangular faces each with slant height 13 units. Find its total surface area (including the base).

Answer: _____

12. Find the total surface area of a rectangular prism with dimensions 12.5 units by 4 units by 6 units.

Answer: _____