



Area, Surface & Volume

Name: _____

Grade: 6

Date: _____

Find area of polygons, surface area using nets, and volume of prisms/cubes. Apply in real contexts and analyze errors.

Part 1 · Area of Polygons

AREA

1. Rectangle $8 \times 5 =$ _____

2. Triangle base 10, height 6 = _____

3. Parallelogram base 7, height 9 = _____

4. Trapezoid bases 8, 12, height 5 = _____

5. Square side 11 = _____

6. Hexagon area (use formula) side 4 = _____

Part 2 · Surface Area Nets

SURFACE

7. Cube edge 5: surface area = _____

8. Rectangular prism $6 \times 4 \times 3$: surface area = _____

(9. Prism $10 \times 2 \times 2$: surface area = _____

(10. Cube edge 8: surface area = _____

(11. Prism $7 \times 5 \times 2$: surface area = _____

(12. Prism $9 \times 3 \times 3$: surface area = _____

Part 3 · Volume VOLUME

(13. Cube edge 6 = _____

(14. Prism $8 \times 5 \times 2$ = _____

(15. Prism $7 \times 3 \times 4$ = _____

(16. Prism $10 \times 2 \times 2$ = _____

(17. Prism $9 \times 3 \times 3$ = _____

(18. Prism $6 \times 4 \times 3$ = _____

Part 4 · Mixed Contexts CONTEXT

(19. A garden bed 12×6 ft. Area = _____

(20. A box $10 \times 5 \times 4$ in. Volume = _____

(21. A cube edge 7 cm. Surface area = _____ ; volume = _____

(22. A pool $20 \times 8 \times 5$ yd. Volume = _____

(23. A prism $9 \times 3 \times 3$. Surface area = _____ ; volume = _____

(24. Reflection: Most helpful strategy? _____

Part 5 · Error Analysis FIX

(25. Error: Area of triangle $10 \times 6 = 60$. Correct & mistake: _____ / _____

(26. Error: Surface area cube edge 4 = 16. Correct & why: _____ / _____

(27. Error: Volume prism $8 \times 5 \times 2 = 80$. Correct & why: _____ / _____

Part 6 · Challenge CHALLENGE

(28. Prism $12 \times 7 \times 3$. Surface area = _____ ; volume = _____

(29. Cube edge 9. Surface area = _____ ; volume = _____

(30. Trapezoid bases 10, 14, height 8. Area = _____

(31. Prism $10 \times 2 \times 2$. Surface area = _____ ; volume = _____

(32. Prism $6 \times 4 \times 3$. Surface area = _____ ; volume = _____

(33. Reflection: Most helpful strategy? _____

Answer Key

1. 40
2. 30
3. 63
4. 50
5. 121
6. ~41.57
7. 150
8. 108
9. 88
10. 384
11. 122
12. 90
13. 216
14. 80
15. 84
16. 40
17. 81
18. 72
19. 72
20. 200
21. 294 ; 343
22. 800
23. 90 ; 81
24. Varies
25. 30 / forgot divide by 2
26. 96 / 6 faces $\times$ 16
27. 80 / correct, but check multiplication
28. 258 ; 252
29. 486 ; 729
30. 96
31. 88 ; 40
32. 108 ; 72
33. Varies

Accept equivalent forms. Reflection varies.