

8.11 Volume of General Prisms

Chapter 8: Geometry and Measurement

Name: _____

Date: _____

Class/Period: _____

Problem 8.161 A triangular prism has a triangular base with base 10 and perpendicular height 6; its prism length is 8. Find its volume.

Problem 8.164 A prism has a parallelogram base with base 11 and perpendicular height 7; its prism length is 4. Find its volume.

Problem 8.162 A triangular prism has a triangular base with base 7.5 and perpendicular height 4; its prism length is 12. Find its volume.

Problem 8.165 A prism has base area 36 and volume 270. Find the perpendicular distance between its bases.

Problem 8.163 A trapezoidal prism has base trapezoid with parallel sides 6 and 14 and perpendicular height 5; the prism length is 9. Find its volume.

Problem 8.166 A triangular prism has volume 420, prism length 10, and triangular-base height 7. Find the base length of the triangular base.

8.11 Volume of General Prisms

Chapter 8: Geometry and Measurement

Problem 8.167 A prism has square base side 8 and length 15. Find volume.

Problem 8.170 A trapezoidal-base prism has base area 48 and length 6. Find volume.

Problem 8.168 A prism has regular hexagonal base area 54 and length 7. Find volume.

Problem 8.171 If base area doubles and prism length stays fixed, how does volume change?

Problem 8.169 Explain the two different meanings of height in a triangular prism problem.

Problem 8.172 If all linear dimensions double, how does volume change?

8.11 Volume of General Prisms

Chapter 8: Geometry and Measurement

Problem 8.173 A triangular prism has volume 360. Its triangle base is 12 and triangle height is 5. Find prism length.

Problem 8.175 A prism has L-shaped base equal to a 10×8 rectangle with a 4×3 corner removed. Its length is 6. Find volume.

Problem 8.174 A trapezoidal prism has volume 525, prism length 7, height of trapezoid 5, and one base 9. Find the other base.

Problem 8.176 Two prisms have equal lengths. One base is a 12×5 rectangle; the other is a triangle with base 15. Find the triangle height for equal volumes.