

**GRADE 11 ESSENTIAL
UNIT C – 3-D GEOMETRY
VOLUME**

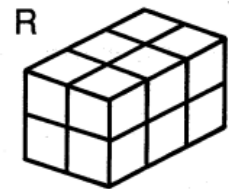
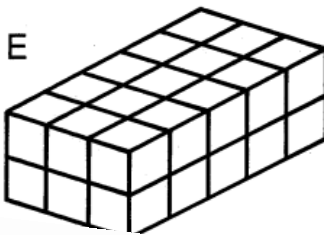
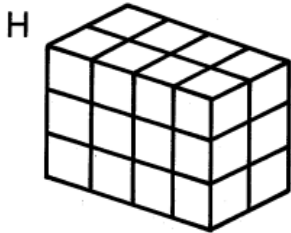
Name: _____
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SHOW WORK AS ALWAYS; FOLLOW EXAMPLES

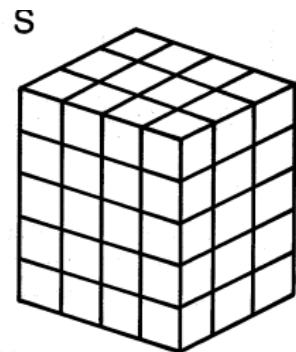
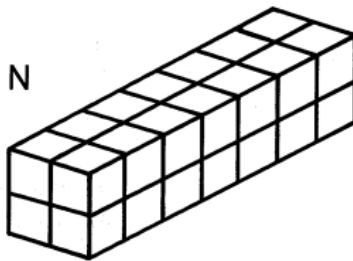
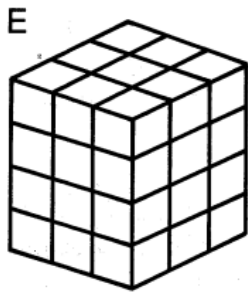
Mystery: What happened when a 6-year old, a 5-year old, a 4-year old, a 3-year old, and a 2-year old joined to form a basketball team?

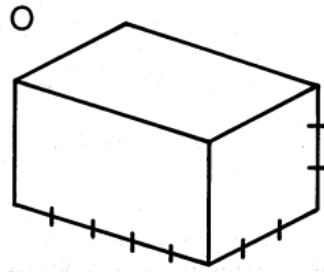
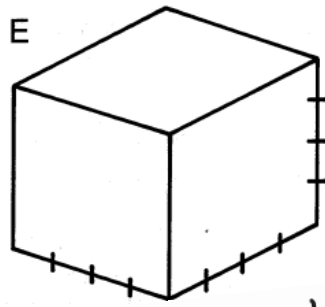
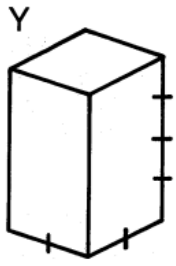
Find the volume of each prism in cubic units. Write the letter of the exercise in the box containing the answer.

40	24	36	16	32	72	64	12	48	80	45	28	75	42	30	60	18
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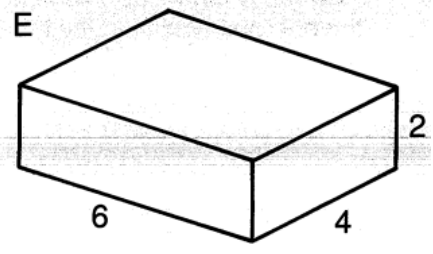
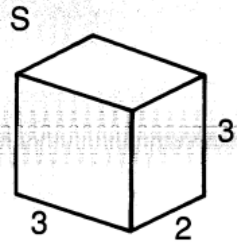
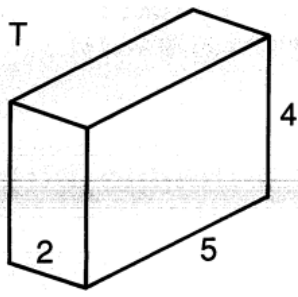


$$\begin{aligned}
 V_{\text{Prism}} &= \text{Base Area} \cdot h_{\text{prism}} \\
 &= (3 \cdot 5) \cdot 2 \\
 &= 15 \cdot 2 = 30 \text{ cubic units} \\
 &= 30 \text{ units}^3
 \end{aligned}$$





$$\begin{aligned}
 V_{\text{Prism}} &= \text{BaseArea} \cdot h_{\text{prism}} \\
 &= (l \cdot w) \cdot h_{\text{prism}} \\
 &= (4 \cdot 4) \cdot 4 \\
 &= 64 \text{ units}^3
 \end{aligned}$$



(L) $l=3; w=7; h=2$

(W) $l=4; w=3; h=6$

(E) $l=5; w=5; h=3$

$$V_{\text{Prism}} = \text{BaseArea} \cdot h_{\text{prism}}$$

What Movie Is about a Kid Who Ran Away from Home with His Bicycle?

Find each answer in the answer columns and notice the two letters next to it. Write these letters in the spaces over the exercise number at the bottom of the page.

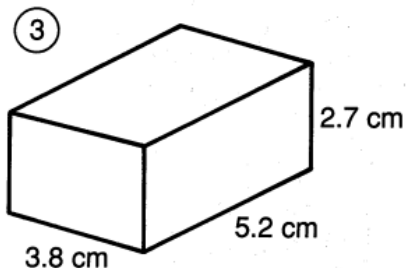
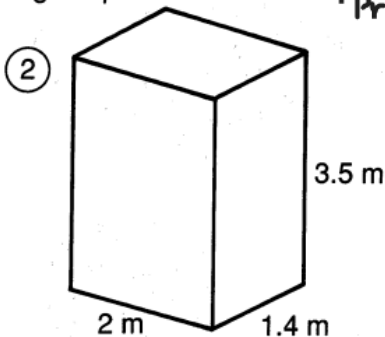
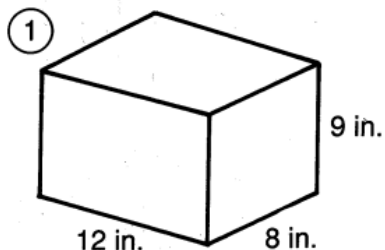
ANSWERS

- (RU) 985 cm³ (ST) 6,118 ft³ (WI) 4,096 m³ (LA) 314.56 lb (TH) 864 in.³
 (NN) 297.67 m³ (CH) 53.352 cm³ (IN) 23.5 ft³ (GO) 1,335 cm³ (LE) 311.27 m³
 (WI) 294.66 lb (ES) 25 ft³ (NE) 9.8 m³ (PA) 3,986 m³ (TH) 7,488 ft³

8	2	6	1	4	7	3	9	5											

I. Find the volume of each rectangular prism.

$$V_{\text{Prism}} = \text{BaseArea} \cdot h_{\text{prism}}$$



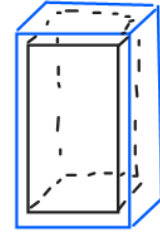
II. Solve.

- ④ A classroom is 26 ft wide, 32 ft long, and 9 ft high. What is the volume of the room in cubic feet?

- ⑤ A swimming pool is 20.6 m long, 8.5 m wide, and has an average water depth of 1.7 m. Find the volume of water needed to fill the pool.

- 6 If all the gold that has been produced in the last 500 years could be melted to form a single cube, each side would measure about 16 m. How many cubic meters of gold is this?

- 7 A refrigerator is 3 ft wide, 2.5 ft deep, and 6 ft high. The walls and other parts of the refrigerator take up 20 ft^3 . How many cubic feet are left for food?



- 8 Krispy Kritters Cereal used to come in a box with a volume of $2,850 \text{ cm}^3$. However, The Krispy Kritters Co. designed a new larger box 22.5 cm wide, 6.2 cm deep, and 30 cm high. How many more cubic centimeters will the new box hold than the old box?

- 9 An aquarium weighs 22.5 lb when empty. The aquarium is 30 in. long, 14 in. wide, and is filled with water to a depth of 18 in. Water weighs 0.036 pound per cubic inch. How much does the aquarium weigh when it is full of water?

