KEY

OPEN-UP resources

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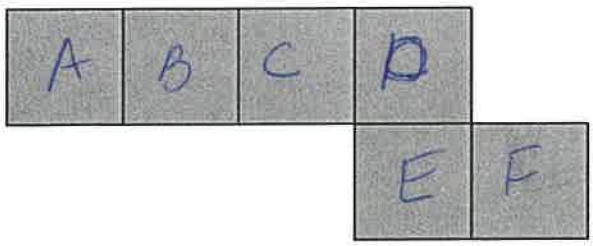
11

Unit 1, Lesson 14: Nets and Surface Area

1. Can the following net be assembled into a cube? Explain how you know. Label parts of the net with letters or numbers if it helps your explanation.

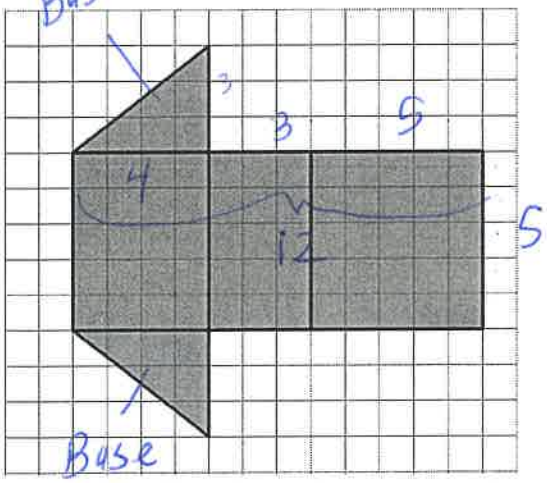


ABCD can be folded up to make 4 sides, but it will have either a top or bottom from E or F.

1

2.

a. What polyhedron can be assembled from this net? Explain how you know.

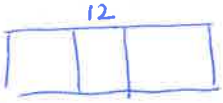


Triangular Prism

2 identical △ bases with rectangular sides.

1/2

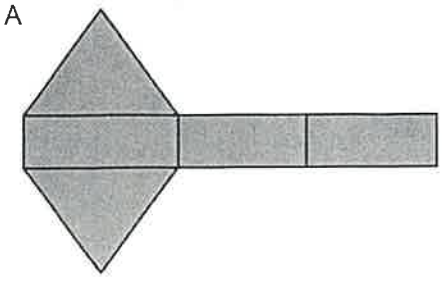
b. Find the surface area of this polyhedron. Show your reasoning.

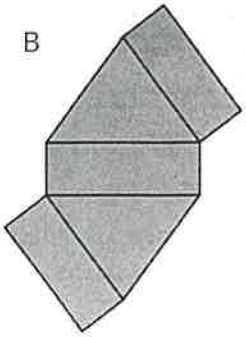


$s = 60\ un^2$ $\triangle = 4 \cdot 3 \div 2 = 6\ un^2 \times 2 = 12\ un^2$

$60\ un^2 + 12\ un^2 = 72\ un^2$

3. Here are two nets. Mai said that both nets can be assembled into the same triangular prism. Do you agree? Explain or show your reasoning.





Yes, faces are the same size and shape and when folded up will make a prism with △ bases.

1

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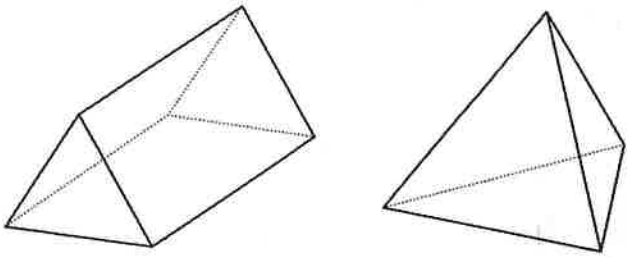
4. Here are two three-dimensional figures.



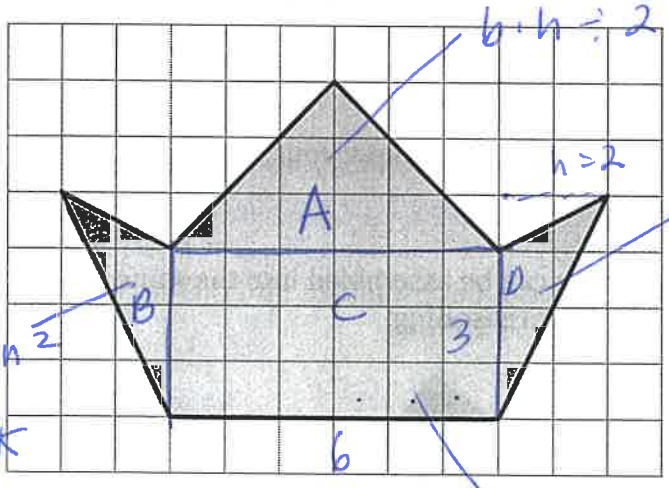
A B

5. Select **all** units that can be used for surface area. Explain why the others cannot be used for surface area.

a. square meters
b. feet - length
c. centimeters - length
d. cubic inches - length
e. square inches
f. square feet

6

6. Find the area of this polygon. Show your reasoning.



$b \cdot h \div 2$ $6 \cdot 3 \div 2 = 9 un^2$

$b \cdot h \div 2$
$3 \cdot 2 \div 2 = 3 un^2$

$3 un^2$ (see work for other triangle)

$6 \times 3 = 18 un^2$

A $9 un^2$
B $3 un^2$
C $18 un^2$
D $3 un^2$
$33 un^2$

1