

Classified



Geotopia Police Department Violation Record

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Geotopia Police Department Violation Record



Name:
John Tripleang

Address:
154 Tangram St.
Geotopia, GT 11223

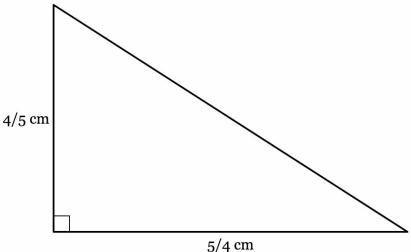
ID Number:
3062471572

Photo:



Details of Violation:

"What is the area, in square centimeters, of the shape below? Express your answer as a fraction in simplest form."



John answered:

$$\text{Length: } \frac{5}{4} \text{ cm}$$

$$\text{Width: } \frac{4}{5} \text{ cm}$$

Area = Length times width

$$\frac{5}{4} \cdot \frac{4}{5} = \frac{20}{20} = 1 \text{ cm}$$

Officer's note:

1) We call the sides of a triangle "base" and "height", not "length and width".

2) Area of a triangle is $\frac{1}{2}bh$. So it should be: $\frac{1}{2} \cdot \frac{5}{4} \cdot \frac{4}{5} = \boxed{\frac{1}{2}}$

3) All area units are with "square". So the answer should be $\boxed{\frac{1}{2} \text{ cm}^2}$



Geotopia Police Department Violation Record



Name:
Victoria Tomoro

Address:
39 Triangle Ave.
Geotopia, GT 10066

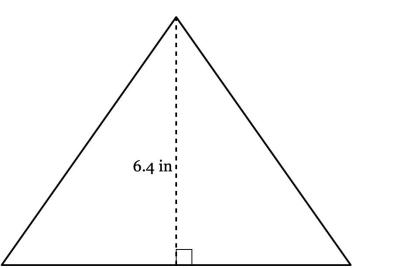
ID Number:
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Photo:



Details of Violation:

"The area of the triangle below is 28.8 square inches. What is the length of the base?"



Victoria's answer:

$$\frac{28.8}{6.4} = 4.5 \text{ in}^2$$

Officer's note:

1) Use area formula to solve:

$$A = \frac{1}{2} \cdot b \cdot h$$

$$28.8 = \frac{1}{2} \cdot 6.4 \cdot h$$

$$28.8 = 3.2 \cdot h$$

Solve for h:

$$\frac{28.8}{3.2} = \frac{3.2h}{3.2}$$

$$9 = h$$

2) Base or height is a "line", not "area" so the unit should be 9 in



Geotopia Police Department Violation Record



Name:
Ada Saito

Address:
2699 Trapezoid Ave.
Geotopia, GT 01183

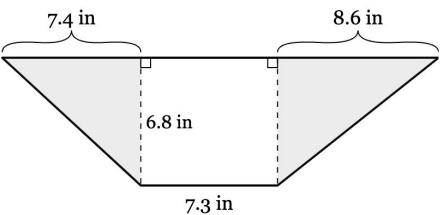
ID Number:
1773811290

Photo:



Details of Violation:

"What is the total area, in square inches, of the shaded sections of the trapezoid below?"



~~Ada's answer:~~

$$\text{Base: } 7.4 + 7.3 + 8.6 = 23.3$$

$$\text{Height: } 6.8$$

$$\text{Area: } \frac{1}{2}bh$$

$$\frac{1}{2} \cdot (23.3) \cdot (6.8) = 79.22 \text{ in}^2$$

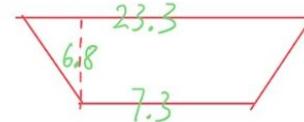
Officer's note:

Area of a Trapezoid is
 $A = \frac{1}{2}(b_1 + b_2)h$

There are 2 bases in a trapezoid. They are always parallel to each other.

$$\text{base 1: } 7.4 + 7.3 + 8.6 = 23.3$$

$$\text{base 2: } 7.3$$



$$\text{Area} = \frac{1}{2}(b_1 + b_2)h$$

$$= \frac{1}{2} \cdot (23.3 + 7.3) \cdot 6.8 = 104.04$$

The area is 104.04 in²



Geotopia Police Department Violation Record



Name:
Thomas Vossenberg

Address:
86 Tangram St.
Geotopia, GT 11223

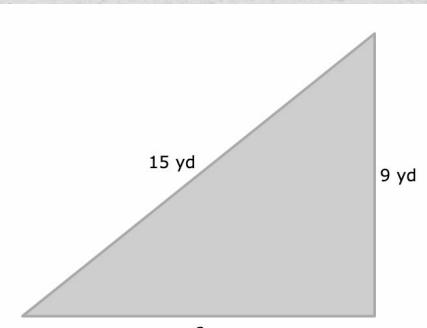
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Photo:



Details of Violation:

"Given the perimeter of this triangle which is **36** yards, find the value of **c**."



Perimeter = 36 yards

~~Thomas's answer:~~

$$\frac{36}{9} = 4 \text{ yd}$$

Officer's note:

This is perimeter! Not area!

Add all 3 sides up for the perimeter.

$$15 + 9 + c = 36$$

$$\begin{array}{r} 24 + c = 36 \\ -24 \hline c = 12 \end{array}$$

C is 12 yards long.



Geotopia Police Department Violation Record



Name:
Tyrone Atkins

Address:
525 North GeoPlaza
Geotopia, GT 12355

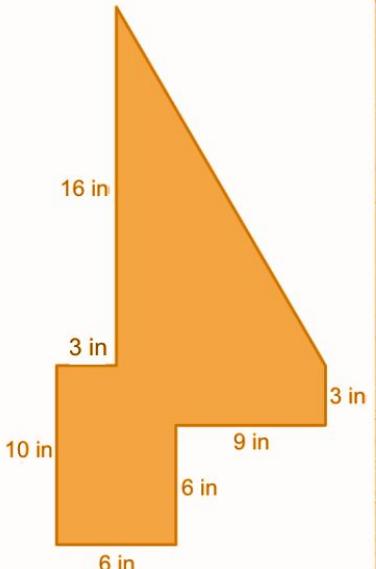
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Photo:



Details of Violation:

"What is the area of this polygon?"

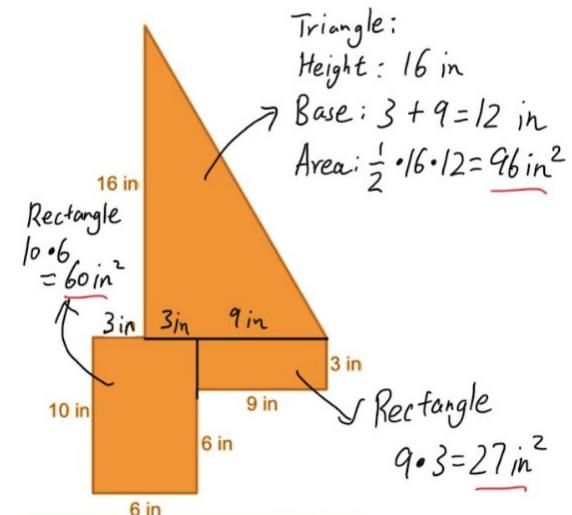


~~Tyrone's answer:~~

$$\begin{aligned} & 16+2+3+9+6+6+10 \\ & = 52 \text{ in}^2 \end{aligned}$$

Officer's note:

We have to break it down to small polygons to find the area.



$$\begin{aligned} \text{Total Area: } & 96 + 60 + 27 \\ & = 183 \text{ in}^2 \end{aligned}$$



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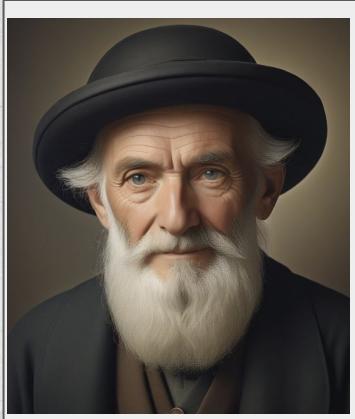


Name:
Harry Lopez

Address:
530 South GeoPlaza
Geotopia, GT 12355

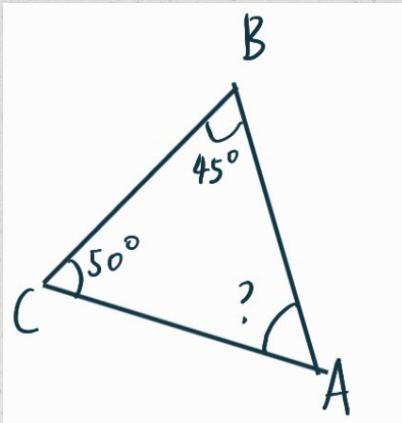
ID Number:
1989954448

Photo:



Details of Violation:

"How do you find the measure of angle A?"



$$\begin{aligned} \cancel{50^\circ + 45^\circ = 95^\circ} \\ \cancel{50 - 45 = 5^\circ} \end{aligned}$$

Officer's note:

Remember, all 3 angles inside of a triangle always add up to 180°

$$\begin{aligned} \angle A &= 180^\circ - \angle B - \angle C \\ &\text{(Angle A)} \\ &= 180^\circ - 45^\circ - 50^\circ \\ &= \underline{\underline{85^\circ}} \end{aligned}$$



Geotopia Police Department Violation Record



Name:
Jenni Angelo

Address:
1177 GeoTown st
Geotopia, GT 09985

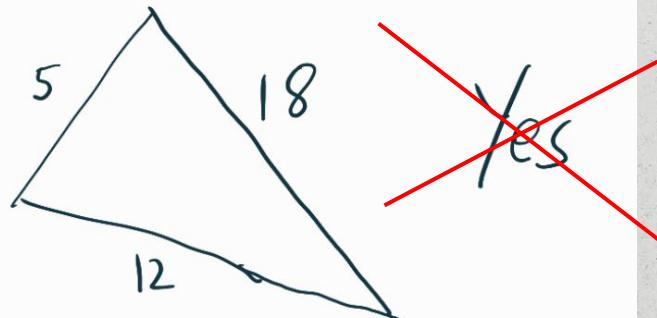
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Photo:



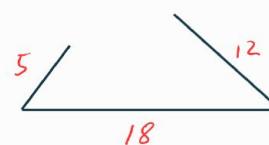
Details of Violation:

"Can 5, 12 and 18 make a triangle?"



Officer's note:

No, 5, 12 and 18 cannot be the side lengths of a triangle!



It is because $5+12=17$ which is less than 18. The sides of 5 and 12 are not long enough to reach each other! Also, $18-12$ is 6 which is greater than 5. We need the difference to be less than the third side.



Geotopia Police Department Violation Record



Name:
Jenni Angelo

Address:
1177 GeoTown st
Geotopia, GT 09985

ID Number:
4340433448

Photo:



Details of Violation:

"How many possible lengths of the third side if I have two sides of 5 and 12 to make a triangle?"

A lot! $12 - 5 = 7$
~~So 7 possible lengths!~~

Officer's note:

$$5 + 12 = 17 \quad (\text{Sum of two sides})$$

$$12 - 5 = 7 \quad (\text{Difference of two sides})$$

So, any number between 7 and 17 will work.
 (Exclude 7 and 17)

8, 9, 10, 11, 12,

13, 14, 15, 16

Any of these are possible!



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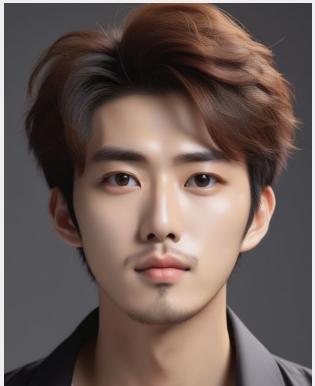


Name:
Nelson Wu

Address:
3217 Tangram St.
Geotopia, GT 11223

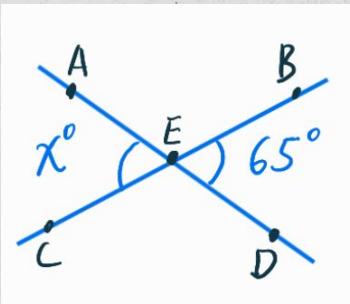
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4340111338

Photo:



Details of Violation:

"What is the value of x ?"



$$\cancel{x + 65 = 65x}$$

Officer's note:

$\angle AEC$ and $\angle BED$ are vertical angles because they are opposite to each other and share the same vertex. Vertical angles are EQUAL in measure.

$$x = 65$$



Geotopia Police Department Violation Record



Name:
Veronika Siabs

Address:
13 Triangle Ave.
Geotopia, GT 10066

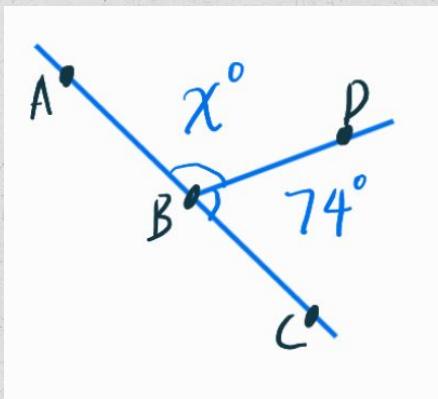
ID Number:
1233633448

Photo:



Details of Violation:

"What is the value of x ?"



$$\cancel{x = 74}$$

Officer's note:

$\angle ABD$ and $\angle DBC$ are supplementary angles because they add up to 180° (Measure of a "flat" angle)

To solve for x :

$$\begin{aligned}x + 74 &= 180 \\x &= 106\end{aligned}$$



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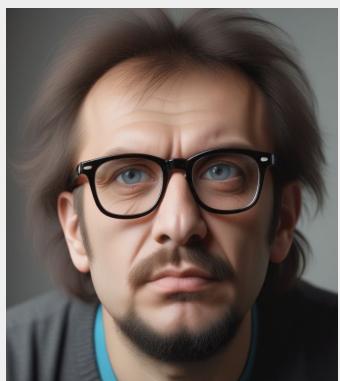


Name:
Girogi Madkins

Address:
512 Vertikal Avenue
Geotopia, GT 15440

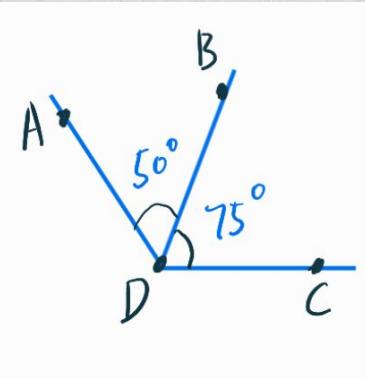
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Photo:



Details of Violation:

"What is the angle relationship?"



~~$\angle ADB$ and $\angle BDC$ are supplementary angles.~~

Officer's note:

$\angle ADB$ and $\angle BDC$ are NOT supplementary because they do not add up to 180° . They are adjacent angles because they share a side.



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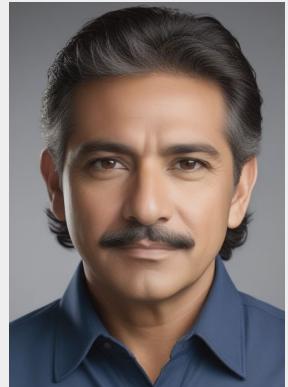


Name:
Amani Verez

Address:
18 Supple Avenue
Geotopia, GT 15430

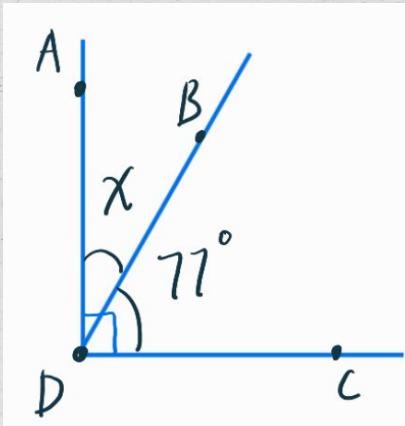
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Photo:



Details of Violation:

"What is the value of x ?"



$$\cancel{x+77=180}$$

$$\cancel{x=103}$$

Officer's note:

$\angle ABD$ and $\angle BDC$ are complementary angles because they add up to 90° (right angle)
To solve for x :

$$x + 77 = 90$$

$$x = 90 - 77 = 23$$



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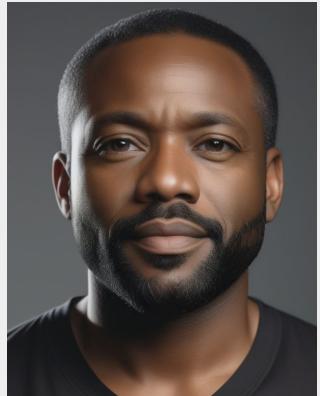


Name:
Eugene Johnson

Address:
99 Adjacent street
Geotopia, GT 22440

ID Number:
2768333448

Photo:



Details of Violation:

"What is the value of x ?"

① $(2x+18)^\circ$

② $(4x-8)^\circ$

~~① $2x+18 = x$~~

~~② $4x-8 + x+28 = 180$~~

Officer's note:

① Supplementary

$$2x+18+x=180$$

$$3x+18=180$$

$$3x=162$$

$$x=54$$

② Vertical

$$4x-8=x+28$$

$$4x-x=8+28$$

$$3x=36$$

$$x=12$$



Geotopia Police Department Violation Record



15

Name:
Alonzo Mbappe

Address:
112 Circle way
Geotopia, GT 22410

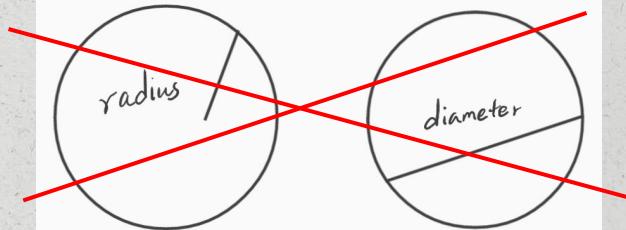
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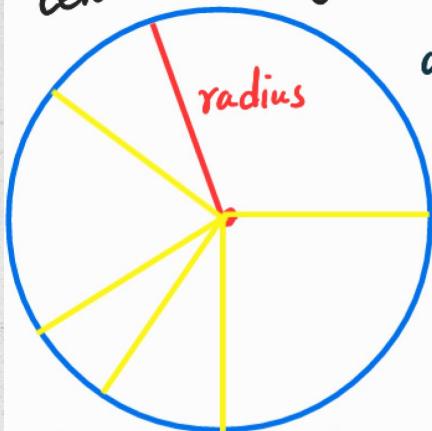
Details of Violation:

"Draw a radius and a diameter"



Officer's note:

Radius is from center to edge

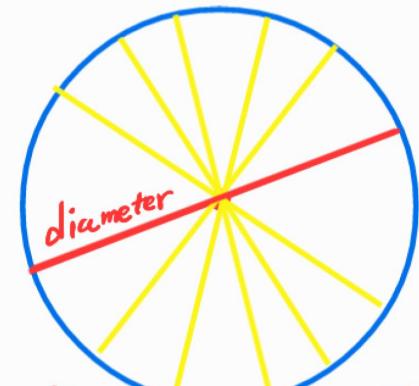


You can draw infinite amount of radius and diameter

Diameter is from edge to center to edge

$$d = 2 \cdot r$$

diameter is twice radius





Geotopia Police Department Violation Record



Name:
Omar Hassan

Address:
32 Area Road
Geotopia, GT 12410

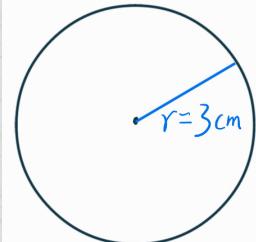
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Photo:



Details of Violation:

"What is the circumference if the radius is 3cm?"



$$\cancel{3 \cdot \pi = 3\pi \text{ cm}}$$

$$\cancel{3 \cdot 3.14 = 9.42 \text{ cm}}$$

Officer's note:

If you know the radius,
use $C = 2\pi r$

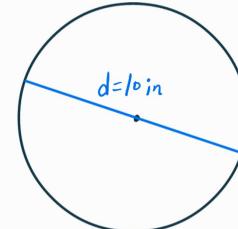
Circumference is double radius
times π

$$\begin{aligned} C &= 2 \cdot \pi \cdot 3 \\ &= 6\pi \end{aligned}$$

6π cm is in terms of π
18.84 cm is in decimal

If you know the diameter,
use $C = \pi d$

Circumference is π times diameter.
 $C = \pi \cdot 10 = 10\pi \text{ in} = 10 \cdot 3.14 = 31.4 \text{ in}$
(in terms of π) (in decimal)





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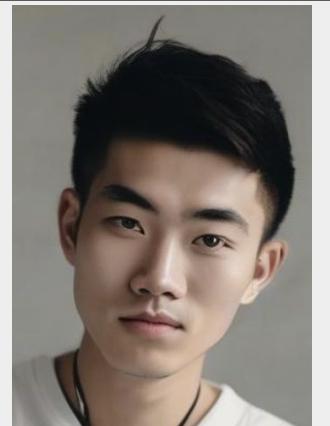


Name:
Hongqing Wei

Address:
119 Tianan Avenue
Geotopia, GT 11310

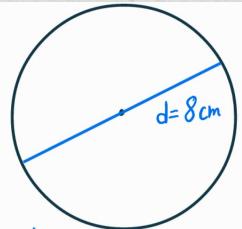
ID Number:
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Photo:



Details of Violation:

"What is the area if the diameter is 8cm?"



$$\begin{aligned} \text{Area} &= 8^2 \cdot \pi \\ &= 64\pi \text{ cm} \end{aligned}$$

Officer's note:

We always need radius
to solve for area!

$$A = \pi r^2$$

Area is π times radius square.
 $d = 8\text{cm} \rightarrow r = 4\text{cm}$ (half)

$$\begin{aligned} A &= \pi \cdot 4^2 = 16\pi \text{ cm}^2 \\ &= 16 \cdot 3.14 \\ &= 50.24 \text{ cm}^2 \end{aligned}$$

(16π is in terms of π . 50.24 is in decimal)

We have the
radius 7 in.

$$\begin{aligned} A &= \pi \cdot 7^2 = 49\pi \\ &= 49 \cdot 3.14 \\ &= 153.86 \end{aligned}$$

Either $49\pi \text{ in}^2$
or 153.86 in²



Geotopia Police Department Violation Record

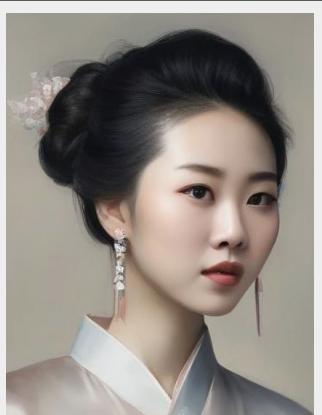


Name:
Yuki Nakamura

Address:
119 Tianan Avenue
Geotopia, GT 11310

ID Number:
0743903441

Photo:

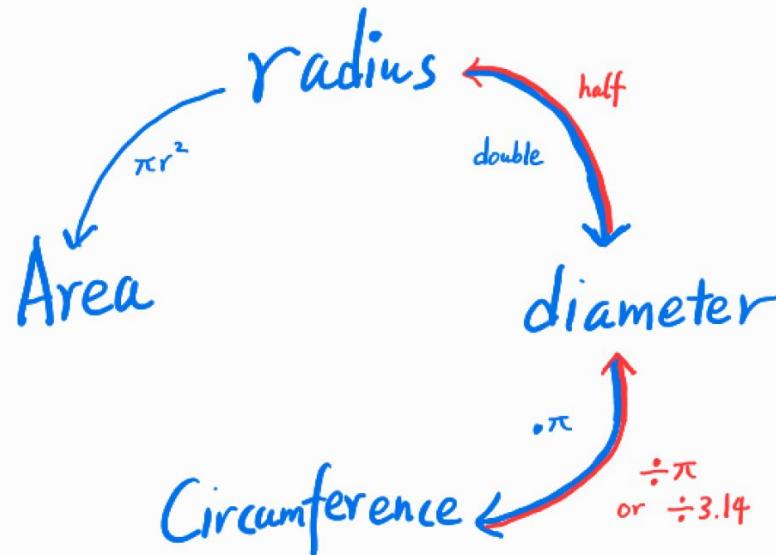


Details of Violation:

"The circumference of a circle is 28.26 cm. What is the area?"

$$\begin{aligned} C &= 28.26 \text{ cm}^2 \\ d &= 28.26 \div \pi = 9 \text{ cm} \\ A &= 9^2 \cdot \pi = 254.34 \text{ cm}^2 \end{aligned}$$

Officer's note:



Follow this chart.

If we have $C = 28.26$,
then $\div 3.14$ is 9 for diameter.
 $9 \div 2 = 4.5$ for radius.
 $4.5^2 \cdot \pi = 63.59 \text{ cm}^2$



Geotopia Police Department Violation Record

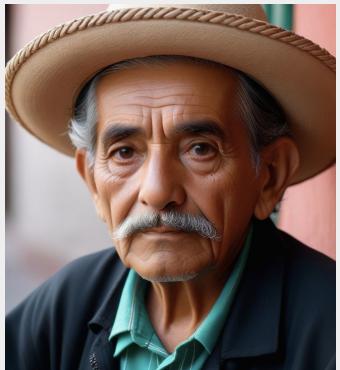


Name:
Alejandro García

Address:
89 Volume Avenue
Geotopia, GT 12341

ID Number:
0678833422

Photo:



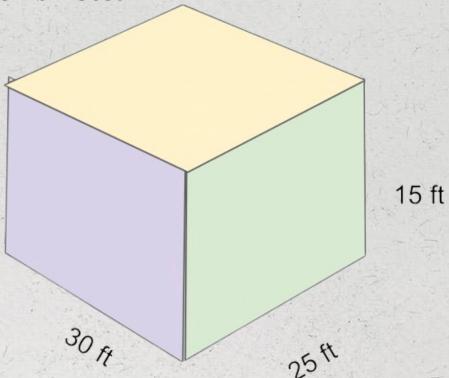
Details of Violation:

"What is the volume of the rectangular prism with 30 ft, 25 ft, and 15 ft as the length, width and height?"

~~Volume?~~

$$\cancel{30 + 25 + 15 = 70 \text{ ft}^3}$$

Officer's note:

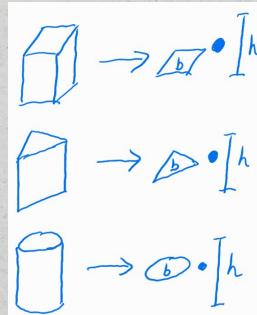


Volume:

Length * Width * Height

$$\begin{array}{c} 30 \\ * \\ 25 \\ * \\ 15 \\ = \\ 11250 \text{ ft}^3 \end{array}$$

Volume of a prism is always the base area times the height.





Geotopia Police Department Violation Record



Name:
Aahana Gupta

Address:
47 Surface Avenue
Geotopia, GT 10011

ID Number:
1238567723

Photo:



Details of Violation:

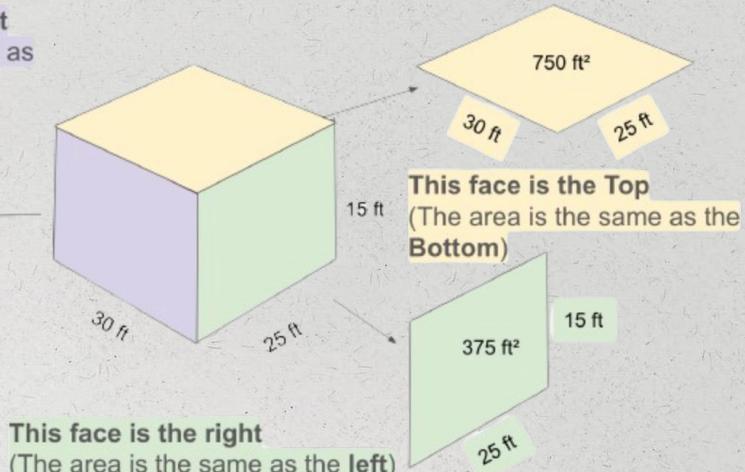
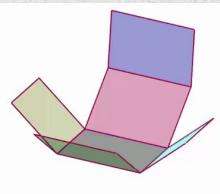
"What is the surface area of this rectangular prism which has length, width and height in 30 ft, 25 ft and 15 ft?"

~~Surface Area?~~

$$\cancel{30 \times 25 \times 15 = 11250 \text{ ft}^2}$$

Officer's note:

This face is the Front
(The area is the same as the Back)



This face is the right
(The area is the same as the left)

Surface Area:

Top
Bottom

$$750 * 2$$

Left
Right

$$375 * 2$$

Front
Back

$$450 * 2$$

Sum 3150 ft^2



Geotopia Police Department Violation Record

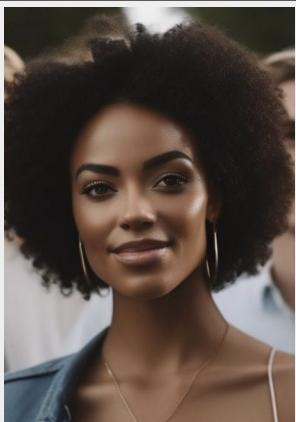


Name:
Stephenie Anderson

Address:
135 Prism Avenue
Geotopia, GT 10323

ID Number:
1456119973

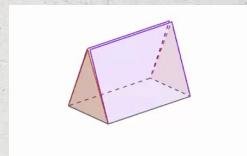
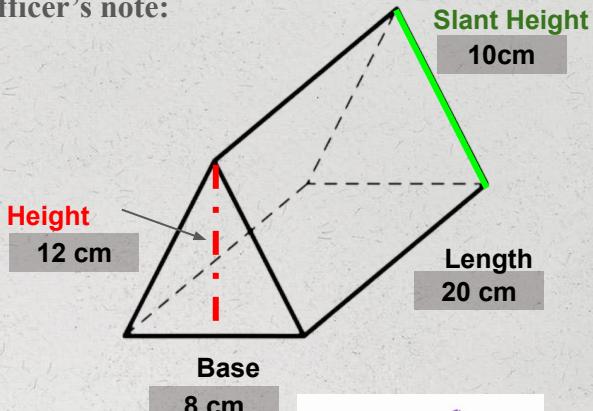
Photo:



Details of Violation:

"What is the **surface area** and **volume** of a triangular prism which has base of 8 cm, height of 12 cm, length of 20 cm and slant height of 10 cm?"

Officer's note:



~~$$\text{Volume: } 12 \times 8 \times 20 \times 10 = 19200 \text{ ft}^3$$

$$\text{Surface Area: } 12 \times 8 \times 20 = 1920 \text{ ft}^2$$~~

Volume of Triangular Prism:

$$(\frac{1}{2} \times 8 \times 12) \times 20 = 960 \text{ cm}^3$$

* Length = 20 cm

Surface Area:
Front + Back+Right+Left+Bottom

$$\frac{1}{2} \times 8 \times 12 + \frac{1}{2} \times 8 \times 12 + 20 \times 10 + 20 \times 10 + 8 \times 20 = 656 \text{ cm}^2$$

$$\frac{1}{2} \times 8 \times 12 + \frac{1}{2} \times 8 \times 12 + 20 \times 10 + 20 \times 10 + 8 \times 20$$



Geotopia Police Department Violation Record

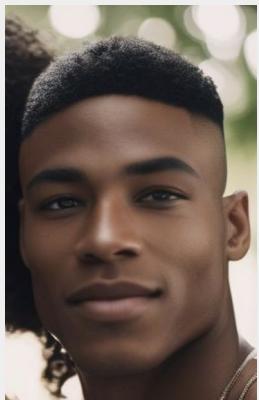


Name:
Acozy Guy

Address:
3089 Pyramid Street
Geotopia, GT 28009

ID Number:
1347890445

Photo:



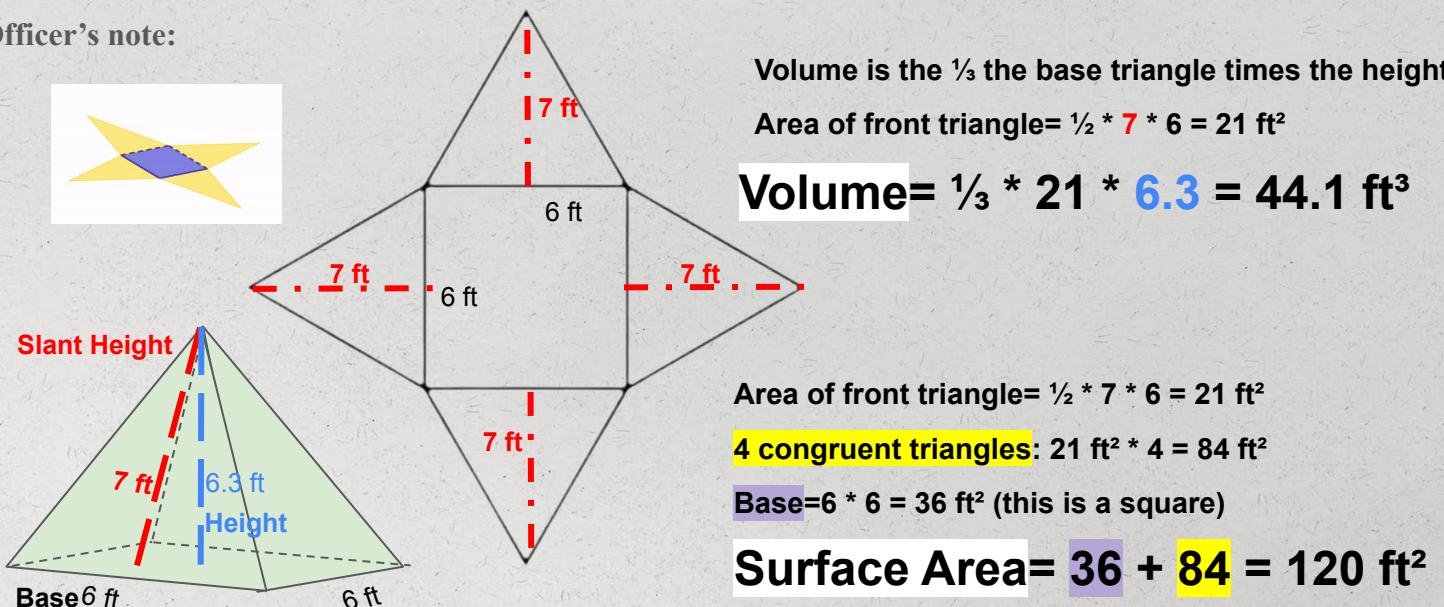
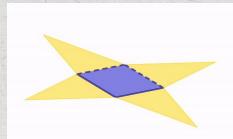
Details of Violation:

"What is the **surface area** and **volume** of a square pyramid which has base of 6 ft, height of 6.3 ft, slant height of 7 ft?"

~~$$\text{Volume: } 7 \times 6 \times 6 = 252 \text{ ft}^3$$

$$\text{Surface Area: } 21 \times 4 = 84 \text{ ft}^2$$~~

Officer's note:





Geotopia Police Department Violation Record



Name:
Crystal Liam

Address:
88 Cross Pl
Geotopia, GT 10086

ID Number:
5163036819

Photo:

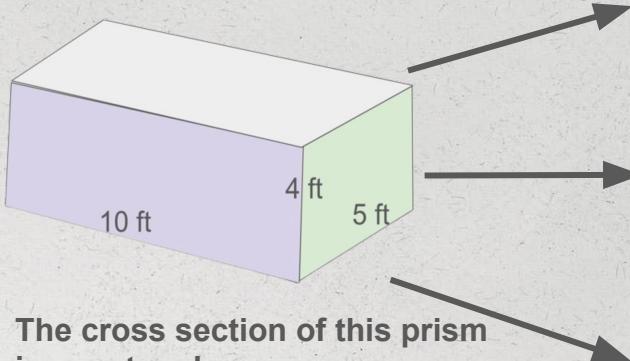


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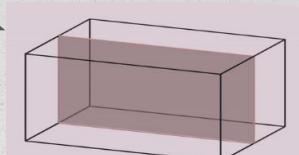
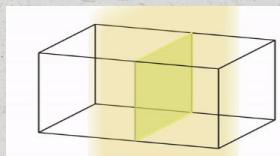
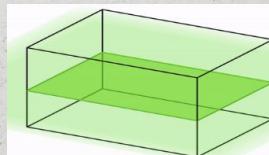
"What is the area of the **cross sections**?"

~~Cross Section is
crossing a section,
right?~~

Officer's note:



The cross section of this prism
is a rectangle.



If we cut horizontally:
 $10 * 5 = 50 \text{ ft}^2$

If we cut vertically:
 $4 * 5 = 20 \text{ ft}^2$

If we cut vertically from the right:
 $10 * 4 = 40 \text{ ft}^2$