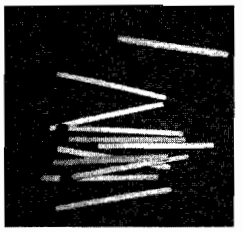
T1

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick? .02 inches ✓ 1
   Show your calculation.

$.1 \cdot .1 \cdot 2 = .02$ ✓ 1

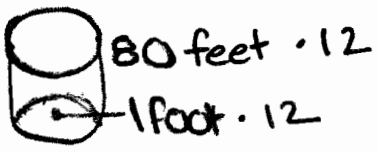
2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet? 7227360 ✓ 2
   Show your work.

$\frac{1}{3}\pi(1\text{foot}, 12\text{in.})^2 \cdot 80\text{ feet}$ ✓ 1

$.333 \cdot 3.14 \cdot 1\text{Foot}^2 \cdot .80 = 83.65$ ✓ 1



1

$83.65 \div .02$ ✓ 1

4183 · 12 · 144 1

T2

Matchsticks

This problem gives you the chance to:
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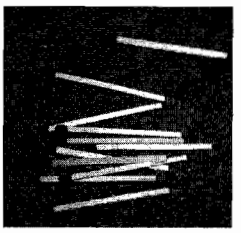
Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.



1. What is the volume of a matchstick?
   Show your calculation.

$\frac{1}{50}$ ✓ 1

0

1

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work.

4189 0

$\frac{1}{3}\pi 1^2 \times 80$ ✓ 1

83.77×50 ✓ 1

1

0

4

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
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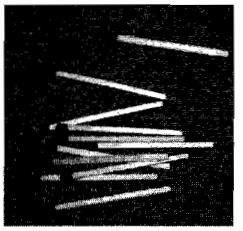


Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick? .02 in ✓ 1
   Show your calculation.

$\frac{1}{10} \cdot \frac{1}{10} \cdot 2 = 0.02$ ✓ 1

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work. 4188 × 0

$\frac{1}{3}\pi 1^2 80$ ✓ 1

83.77 ✓ 1

83.77 ÷ .02 ✓ 1

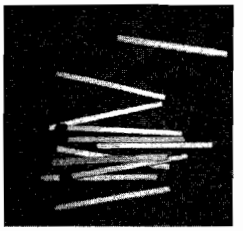
4188.5 0

8

T4

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick?
   Show your calculation.

1/50 ✓

$\frac{1}{10} \times \frac{1}{10} \times 2$ ✓

1

1

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work.

84 matchsticks ×

$\frac{1}{3} \pi \times 1^2 \times 80$ ✓

$= 84$ ✓

0

1

1

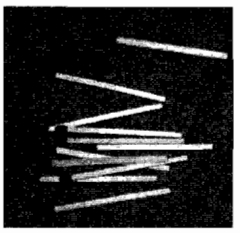
0

0

4

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick? $\frac{1}{50}$ ✓
   Show your calculation.

$\frac{1}{10} \cdot \frac{1}{10} \cdot 2 = \frac{1}{50}$ ✓

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work.

603000 matchsticks ×

$\frac{1}{3}\pi 1^2 \cdot 80 = 83.77758041$ ✓ ✓

$83.77758041 \cdot 12^3$ ✓

$12068^{\times} \cdot 56$ ✓

1 1 1 0 1 1 1 1

Matchsticks

This problem gives you the chance to:
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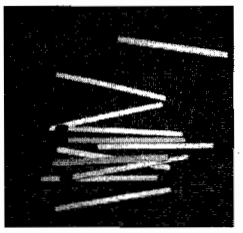


Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick?
   Show your calculation.

$\frac{1}{50}$ ✓ 1

^ 0

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work.

7200000 ✓ 2

$\frac{1}{3} \cdot \pi \cdot 1^2 \cdot 80$ ✓ 1

$83.77 \div \frac{1}{50}$ ✓ 1

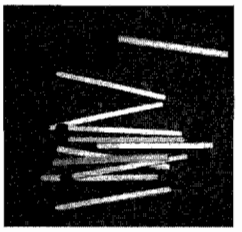
$4188.79 \cdot 12 \cdot 12 \cdot 12$ ✓ 1

1

S2

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

$\frac{1}{10} \cdot \frac{1}{10} \cdot 2 = .02$ ✓

1. What is the volume of a matchstick? .02 ✓ 1
   Show your calculation.

1

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work.

4188 × 0

$\frac{1}{3}\pi r^2(h) = 83.77$ ✓ 1

$r = 1$, $h = 80$

$83.77 \times .02 \times$ 1

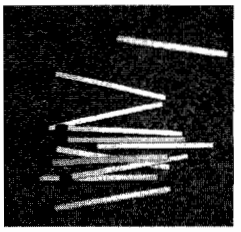
4188.79 0

0

8 (4)

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick? .02 in.³ ✓ 1
   Show your calculation.

$\frac{1}{10} \cdot \frac{1}{10} \cdot 2 = .02$ ✓ 1
$L \cdot W \cdot h$

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work. 2895 × 0

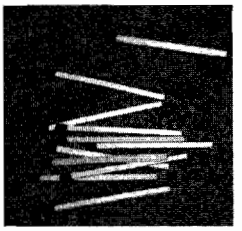
✓
$\frac{1}{3} \cdot \pi \cdot 1^2 \cdot 80 = 83.78$ ✓ 1
$83.78 \cdot 12^3$ ✓ 1
$144772 \cdot .02 \times$ 1
0

5

S4

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick?
   Show your calculation.

.02 ✓ 1

$\frac{1}{10} \cdot \frac{1}{10} \cdot 2$ ✓ 1

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work.

7200000 ✓ 2

$\frac{1}{3}\pi 1^2 \cdot 80$ ✓ 1

$\cdot 12^3$ ✓ 1

.02 ✓ 1

1

8

Matchsticks

This problem gives you the chance to:
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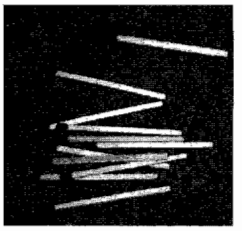

Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick? .02 ✓ 1
   Show your calculation.

$\frac{1}{10} \cdot \frac{1}{10} = \frac{1}{100} \cdot 2 = .02$ ✓ 1

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet? 84 0
   Show your work.

$\frac{1}{3} \pi 1^2 80$ ✓ 1

$3.14 \cdot 1.80 = 251 \div \frac{1}{3} = 83.775 = 84$ ✓ 1

0

0

8

4

Matchsticks

This problem gives you the chance to:
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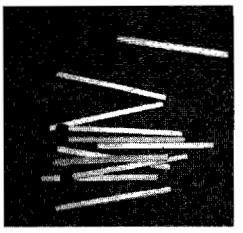


Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick?
Show your calculation.

1/50 ✓ 1

$\frac{1}{10} \cdot \frac{1}{10} \cdot \frac{2}{1}$

Length · width · height = volume 1

$\frac{1}{10} \cdot \frac{1}{10} = \frac{1}{100} \cdot \frac{2}{1} = \frac{1}{50}$ ✓

2. A tree trunk can be thought of as an approximate cone of wood.

The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
Show your work.

4189 × 0

$\frac{1}{3}\pi(1^2)(80)$ ✓ 1

$\frac{1}{3}\pi 1(80)$ 1

$\frac{1}{3}\pi(80)$ 1

$(1.047197551)80$ ✓ 0

83.7758041

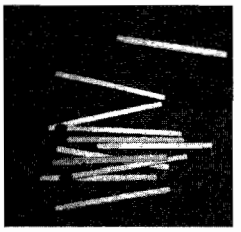
83.7758041 · 50 ✓

8

S7

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick?
   Show your calculation.

.02 ✓

.1 . .1 . 2 ✓

1
1

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
   Show your work.

≈145066 ×

$\pi \cdot 12^2 \cdot 80 \cdot 12$

$434293.7684 \div 3$

144764

0
1
1
0
1

Matchsticks

This problem gives you the chance to:
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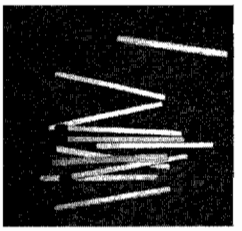

Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick? .02 inches^3 ✓ 1
   Show your calculation.

$l \circ w \circ h = V$ 1

$\frac{1}{10} \circ \frac{1}{10} \circ 2$ ✓

2. A tree trunk can be thought of as an approximate cone of wood.

   The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

   How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet? 84 × 0
   Show your work.

$\frac{1}{3}\ \pi\ 1^2 80$ ✓ 1

$\frac{1}{3}\ \pi \circ 80$ 1

$1.05 \circ 80$ 0

0

8

Matchsticks (4)

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
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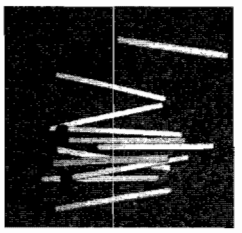


Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

.1 x .1 x 2 ✓

1. What is the volume of a matchstick? Show your calculation.

.02 ✓

1

1

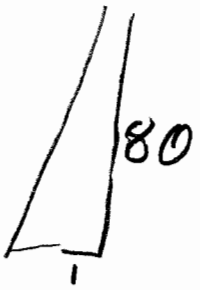
2. A tree trunk can be thought of as an approximate cone of wood.

The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
Show your work.

4146.9 x

0



$.33 \cdot \pi 1^2 \cdot 80 = 82.9$ ✓

$82.9 \div 0.2 = 4146.9$ ✓

1

1

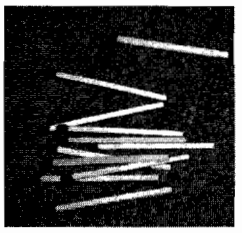
1

0

5

Matchsticks

This problem gives you the chance to:
- show understanding of volumes
- apply your knowledge to a practical situation



Matchsticks are rectangular prisms of wood measuring approximately $\frac{1}{10}$ inch by $\frac{1}{10}$ inch by 2 inches.

1. What is the volume of a matchstick?
   Show your calculation.

$\frac{1}{50}$ ✓ 1

$\left(\frac{1}{10}\right)^2 \cdot 2 \quad \frac{2}{100}$ ✓ 1

2. A tree trunk can be thought of as an approximate cone of wood.

The volume of a cone is found using the formula $\frac{1}{3}\pi r^2 h$, where r feet is the radius of the base of the cone and h feet is the height of the cone.

How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?
Show your work.

= 12 ins ✓

7.24 million ✓ 2

= 960 ✓

$\frac{1}{3} \cdot \pi \cdot 12^2 \cdot 960$ ✓ 1

144765 ÷ $\frac{1}{50}$ ✓ 1

7,238,229 1

1