

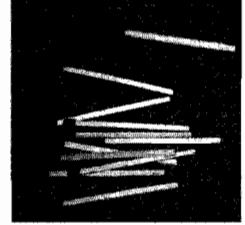
Matchsticks

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

Show your calculation.

$$0.1 \cdot 0.1 \cdot 2 = .02$$

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.

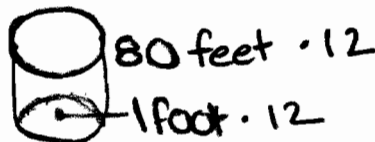
How many matchsticks can be made from a tree with a trunk with a base radius of 1 foot and a height of 80 feet?

Show your work.

7227360

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

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



$$83.65 \div .02$$

$$4183 \cdot 12 = 144$$

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.

$$\frac{1}{50} \checkmark$$

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.

$$\underline{4189}$$

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

$$83.77 \times 50 \checkmark$$

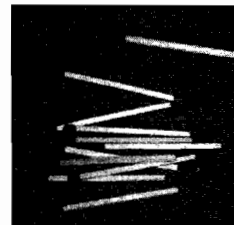
Matchsticks

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? 0.02 in ✓

Show your calculation.

$$\frac{1}{10} \cdot \frac{1}{10} \cdot 2 = 0.02 \quad \checkmark$$

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

$$\frac{1}{3} \pi 1^2 80 \quad \checkmark$$

$$83.77 \quad \checkmark$$

$$83.77 \div 0.02 = 4188.5$$

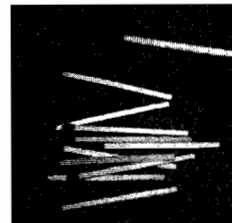
Matchsticks

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.

$$\frac{1}{50}$$

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

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?
Show your work.

84 matchsticks

$$\frac{1}{3} \pi 1^2 80 = 84$$

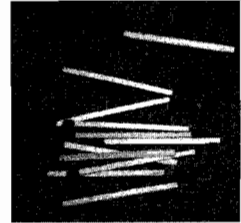
Matchsticks

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.

$$\frac{1}{50}$$

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

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.

$$\frac{1}{3} \pi 1^2 \cdot 80 = 83.7758041$$

$$83.7758041 \cdot 12^3$$

$$12668 \cdot 56$$

603600
matchsticks

⑦

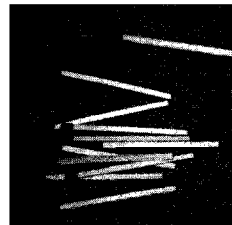
Matchsticks

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.

$$\frac{1}{50}$$

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.

$$\underline{7200000}$$

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

$$83.77 \div \frac{1}{50}$$

$$4188.79 \cdot 12 \cdot 12 \cdot 12$$

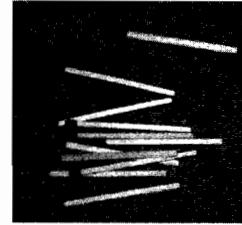
Matchsticks

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.
 $\frac{1}{10} = .1$



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

.02

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

$$\frac{1}{3} \pi r^2 (h) = 83.77$$

$r=1$ $h=80$

$$\frac{83.77 \times .02}{4188.79}$$



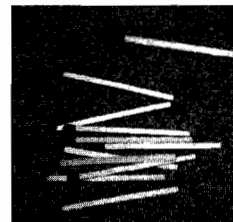
Matchsticks

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.

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

$$L \cdot W \cdot h$$

.02 in.

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

$$\frac{1}{3} \cdot \pi \cdot 1^2 \cdot 80 = 83.78$$

$$83.78 \cdot 12^3$$

$$144772 \cdot .02$$



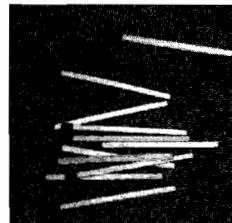
Matchsticks

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.

$$\underline{.02} \quad \checkmark$$

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

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.

$$\underline{7200000} \quad \checkmark$$

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

$$\frac{1}{3} \cdot 80 \quad \checkmark$$

$$.12^3 \quad \checkmark$$

(8)

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 ✓

Show your calculation.

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

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

$$\frac{1}{3} \pi 1^2 80 \quad \checkmark$$

$$3.14 \cdot 1 \cdot 80 = 251 \div \frac{1}{3} = 83.775 = 84$$

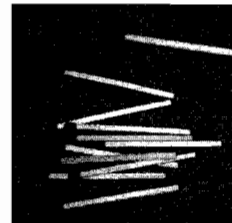
Matchsticks

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.

$\frac{1}{50}$ ✓

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

Length · width · height
= volume

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

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 ✓

$$\frac{1}{3} \pi (1^2)(80)$$

$$83.7758041 \cdot 50$$

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

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

$$(1.047197551)80$$

$$83.7758041$$



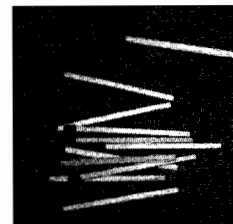
Matchsticks

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.

$$\underline{0.02} \quad \checkmark$$

$$.1 \cdot .1 \cdot 2 \quad \checkmark$$

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.

$$\underline{\approx 145000} \quad \checkmark$$

$$\pi \cdot 1^2 \cdot 80 \cdot 12$$

$$434293.7684 \div 3$$

$$144764$$

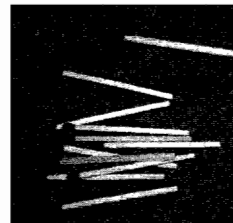
Matchsticks

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 inches³
Show your calculation.

$$l \times w \times h = V$$

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

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?

Show your work.

84

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

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

$$1.05 \times 80$$

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.

$$.1 \times .1 \times 2 \quad \checkmark$$



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

$$\underline{.02} \quad \checkmark$$

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.

$$\underline{4146.9} \quad \checkmark$$



$$.33 \cdot \pi \cdot 1^2 \cdot 80 = 82.9 \quad \checkmark$$

$$82.9 \div 0.2 = 4146.9 \quad \checkmark$$

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.

$$\frac{1}{50} \checkmark$$

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

$$\frac{2}{100} \checkmark$$

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.

$$= 960$$

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

$$144765 \div \frac{1}{50}$$

$$7,238,229$$

7.24 million

= 12 ins