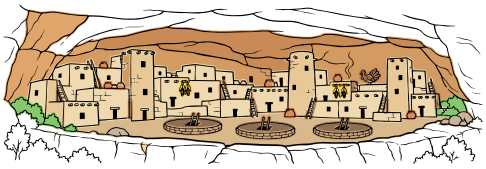
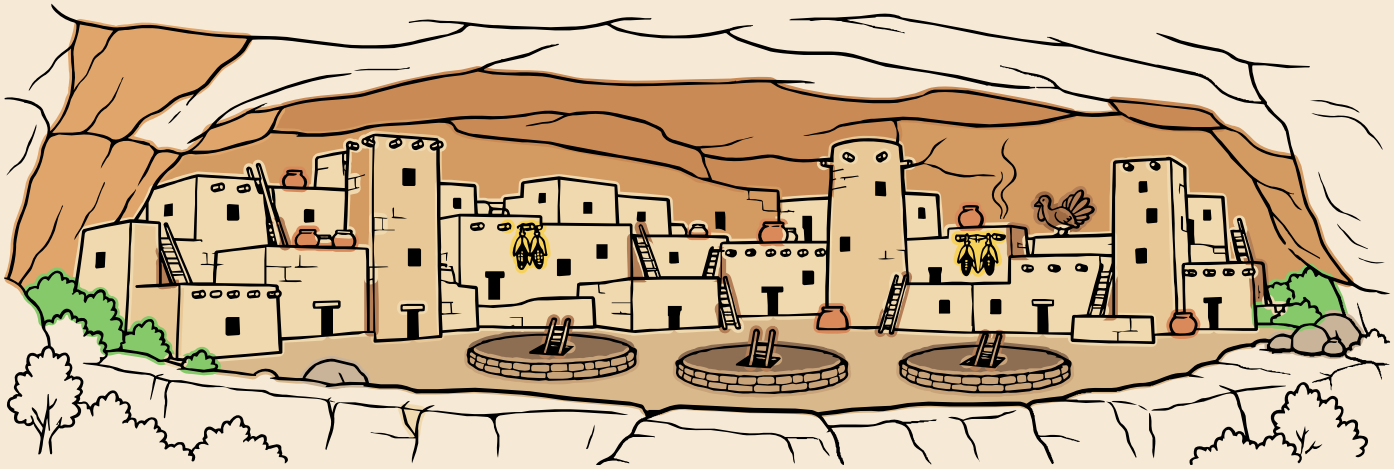
Name _____ Date _____



Cliff Dwellings Math

Each cube is one room. How many rooms?



Cliff Palace, at Mesa Verde in Colorado, is the largest cliff dwelling in North America. Ancestral Puebloan people built it of sandstone, beams and mortar about **1190** to **1260** CE. It had about **150** rooms, side by side and stacked up.

1. Example



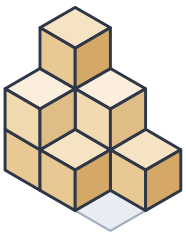
5 rooms

2.



_____ rooms

3.



_____ rooms

4.



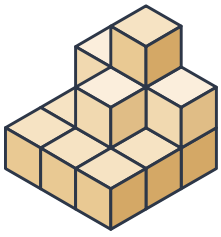
_____ rooms

5.



_____ rooms

6.



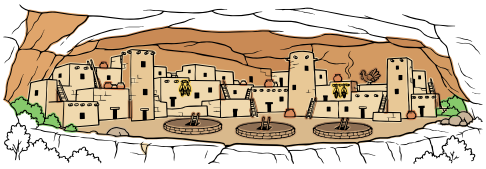
_____ rooms

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Name _____ Date _____



Cliff Dwellings Math

Count the rooms in a layer, then the layers.



Rooms at Cliff Palace were built in stories, one on top of another, like layers. Every layer of these room blocks has the same rooms. Rooms in one layer × number of layers = rooms in all.

1. Example



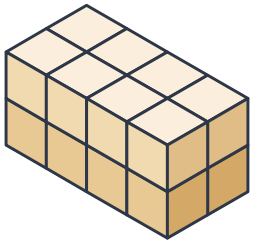
one layer: 6

layers: 2

6 × 2 = 12

rooms

2.



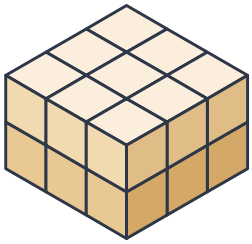
one layer: _____

layers: _____

_____ × _____ = _____

rooms

3.



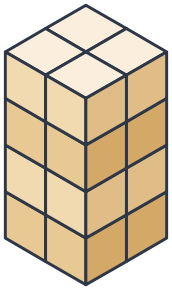
one layer: _____

layers: _____

_____ × _____ = _____

rooms

4.



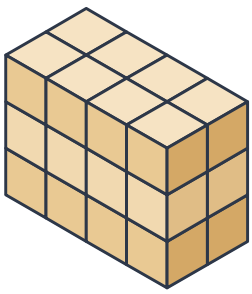
one layer: _____

layers: _____

_____ × _____ = _____

rooms

5.



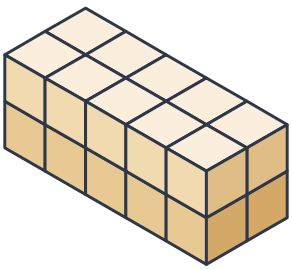
one layer: _____

layers: _____

_____ × _____ = _____

rooms

6.



one layer: _____

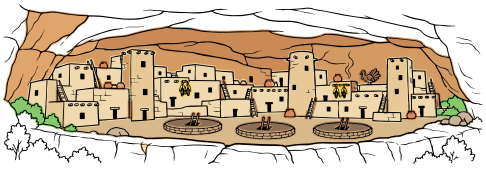
layers: _____

_____ × _____ = _____

rooms

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Name _____ Date _____



Cliff Dwellings Math

Shade what you see from the top, front, side.

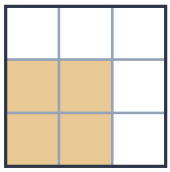


Builders plan a building from more than one side. Look at each room block from the top, from the front and from the side, and shade one square for each cube face you would see.

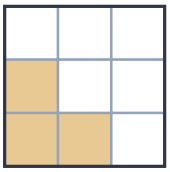
1. Example



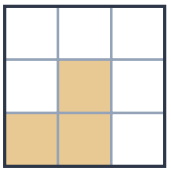
front side



Top



Front

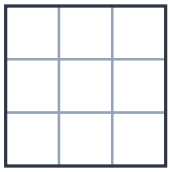


Side

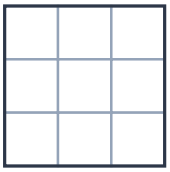
2.



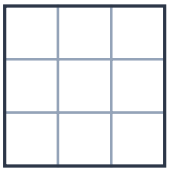
front side



Top

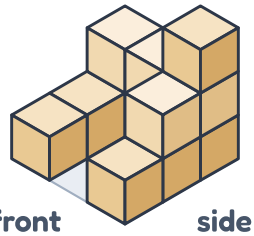


Front

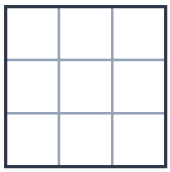


Side

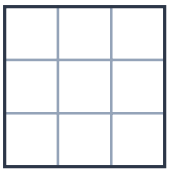
3.



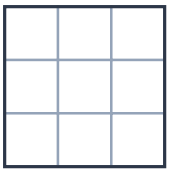
front side



Top



Front

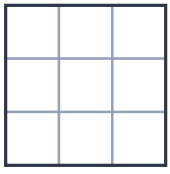


Side

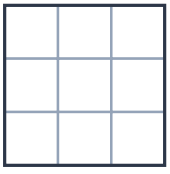
4.



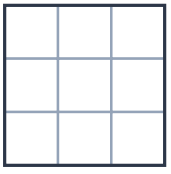
front side



Top



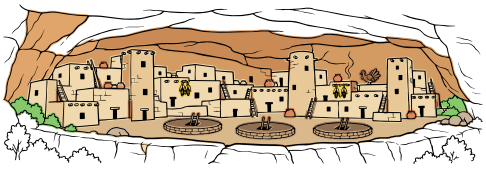
Front



Side

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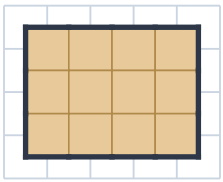
Cliff Dwellings Math

Find the area and perimeter of each plan.



Many rooms at Cliff Palace were small and fit together like puzzle pieces along the back of the cave. These floor plans are drawn on grid paper. Each square is 1 square unit.

1. Example



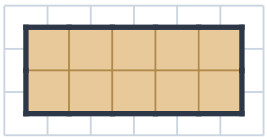
Area:

12 square units

Perimeter:

14 units

2.



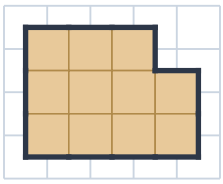
Area:

____ square units

Perimeter:

____ units

3.



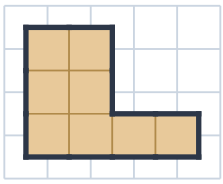
Area:

____ square units

Perimeter:

____ units

4.



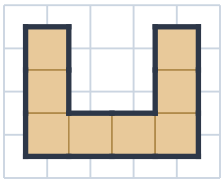
Area:

____ square units

Perimeter:

____ units

5.



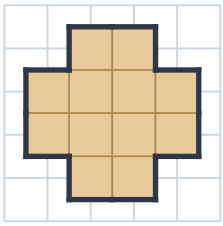
Area:

____ square units

Perimeter:

____ units

6.



Area:

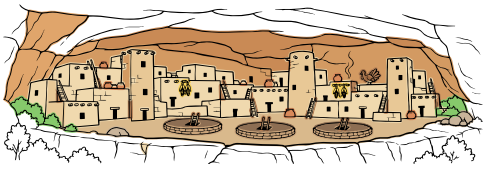
____ square units

Perimeter:

____ units

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Name _____ Date _____



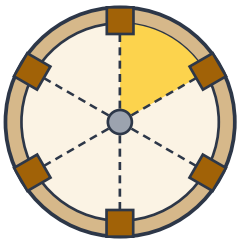
Cliff Dwellings Math

Kivas: name the shaded part. Then solve.



A kiva is a round room set down into the ground. Most kivas at Cliff Palace had six stone pillars around the wall that held up the roof. Here they split each kiva into **6** equal parts.
A full turn around the middle is 360°.

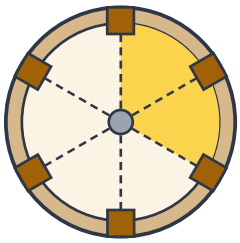
1. Example



shaded: **1/6**

angle: **60°**

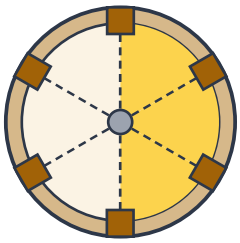
2.



shaded: _____

angle: _____

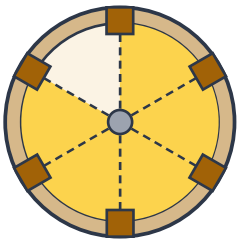
3.



shaded: _____

angle: _____

4.



shaded: _____

angle: _____

5. Cliff Palace had about **150** rooms and **23** kivas. How many more rooms than kivas?

150 − 23 = 127

Example **127** more

6. People built Cliff Palace from about **1190** to **1260** CE. About how many years was that?

_____ years

7. About **100** people lived at Cliff Palace, which had about **150** rooms. How many more rooms than people?

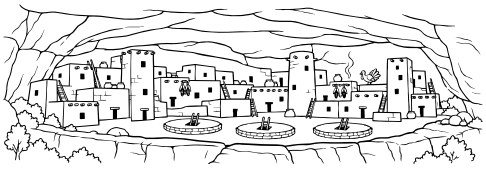
_____ more

8. A kiva has **6** pillars. How many pillars do **4** kivas have?

_____ pillars

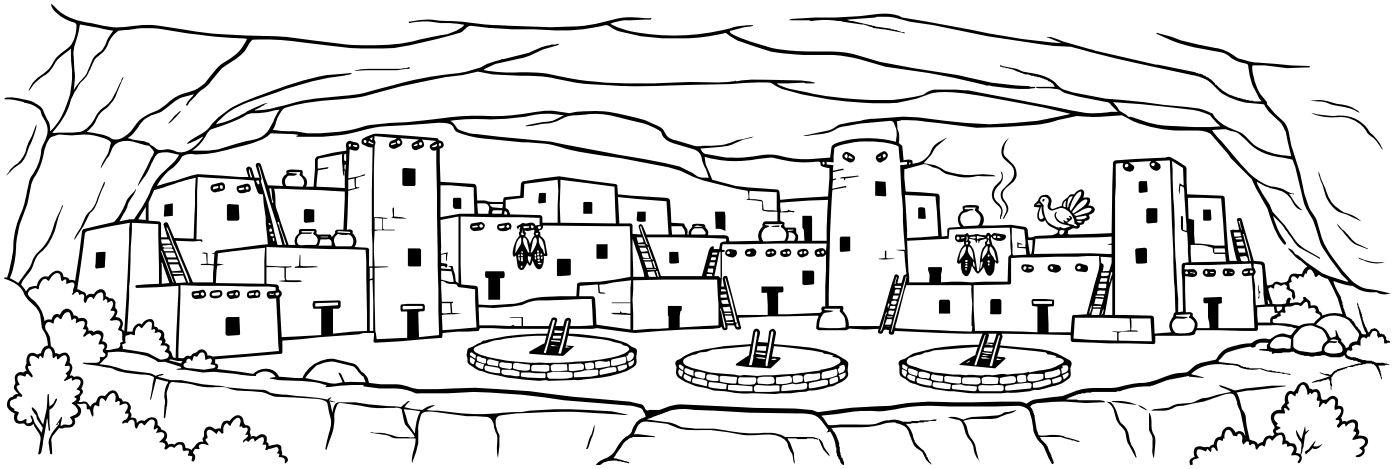
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Name _____ Date _____



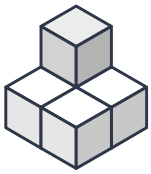
Cliff Dwellings Math

Each cube is one room. How many rooms?



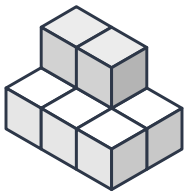
Cliff Palace, at Mesa Verde in Colorado, is the largest cliff dwelling in North America. Ancestral Puebloan people built it of sandstone, beams and mortar about 1190 to 1260 CE. It had about 150 rooms, side by side and stacked up.

1. Example



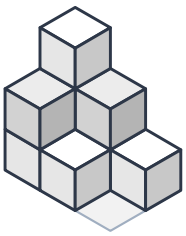
5 rooms

2.



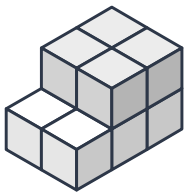
_____ rooms

3.



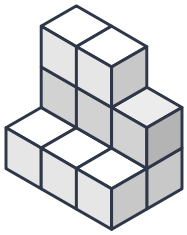
_____ rooms

4.



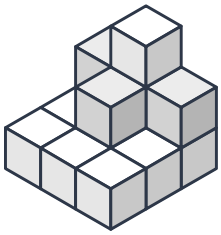
_____ rooms

5.



_____ rooms

6.



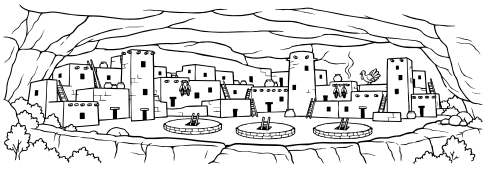
_____ rooms

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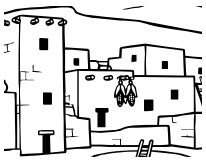
© 2026 Eggroll Games

Name _____ Date _____



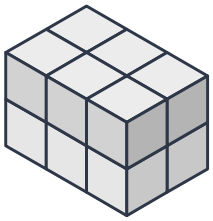
Cliff Dwellings Math

Count the rooms in a layer, then the layers.



Rooms at Cliff Palace were built in stories, one on top of another, like layers. Every layer of these room blocks has the same rooms. Rooms in one layer × number of layers = rooms in all.

1. Example



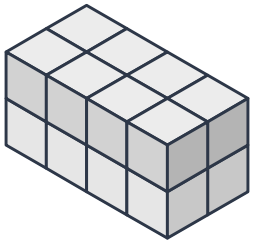
one layer: 6

layers: 2

6 × 2 = 12

rooms

2.



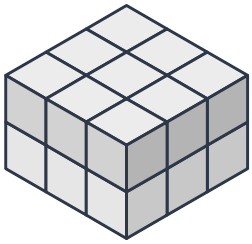
one layer: ____

layers: ____

____ × ____ = ____

rooms

3.



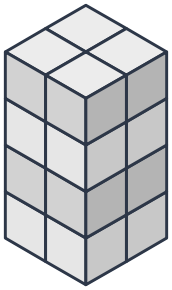
one layer: ____

layers: ____

____ × ____ = ____

rooms

4.



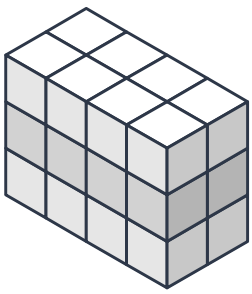
one layer: ____

layers: ____

____ × ____ = ____

rooms

5.



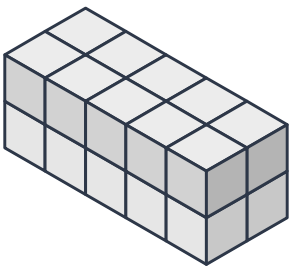
one layer: ____

layers: ____

____ × ____ = ____

rooms

6.



one layer: ____

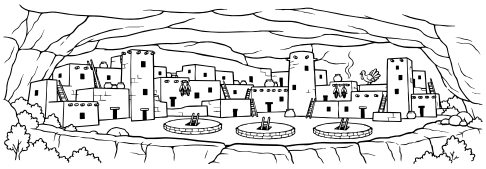
layers: ____

____ × ____ = ____

rooms

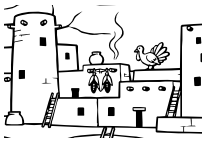
© 2026 Eggroll Games

Name _____ Date _____



Cliff Dwellings Math

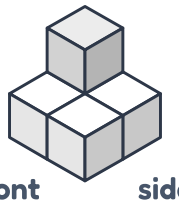
Shade what you see from the top, front, side.



Builders plan a building from more than one side. Look at each room block from the top, from the front and from the side, and shade one square for each cube face you would see.

1.

Example



front side

Top Front Side

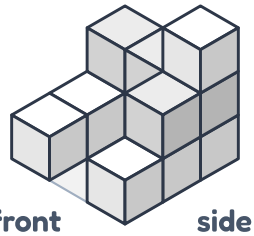
2.



front side

Top Front Side

3.



front side

Top Front Side

4.

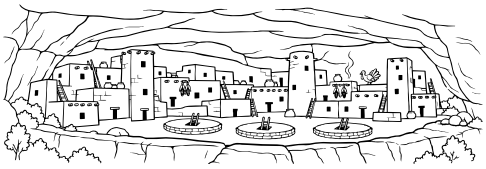


front side

Top Front Side

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Name _____ Date _____



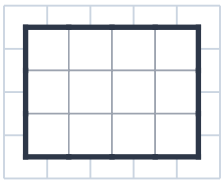
Cliff Dwellings Math

Find the area and perimeter of each plan.



Many rooms at Cliff Palace were small and fit together like puzzle pieces along the back of the cave. These floor plans are drawn on grid paper. Each square is 1 square unit.

1. Example



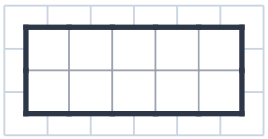
Area:

12 square units

Perimeter:

14 units

2.



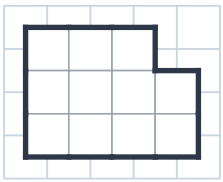
Area:

___ square units

Perimeter:

___ units

3.



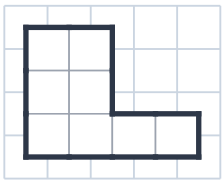
Area:

___ square units

Perimeter:

___ units

4.



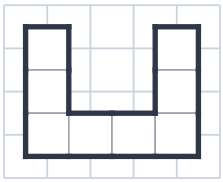
Area:

___ square units

Perimeter:

___ units

5.



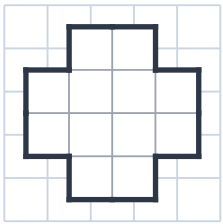
Area:

___ square units

Perimeter:

___ units

6.



Area:

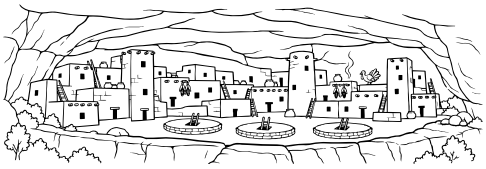
___ square units

Perimeter:

___ units

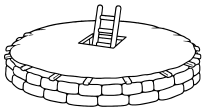
© 2026 Eggroll Games

Name _____ Date _____



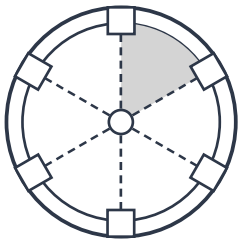
Cliff Dwellings Math

Kivas: name the shaded part. Then solve.



A kiva is a round room set down into the ground. Most kivas at Cliff Palace had six stone pillars around the wall that held up the roof. Here they split each kiva into **6** equal parts.
A full turn around the middle is 360°.

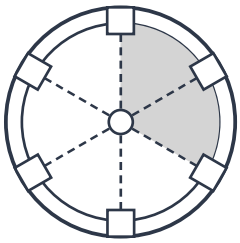
1. Example



shaded: **1/6**

angle: **60°**

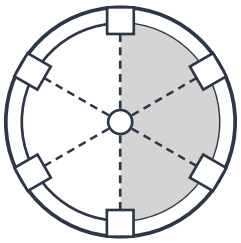
2.



shaded: _____

angle: _____

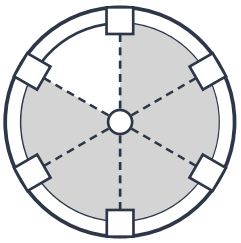
3.



shaded: _____

angle: _____

4.



shaded: _____

angle: _____

5. Cliff Palace had about **150** rooms and **23** kivas. How many more rooms than kivas?

150 − 23 = 127

Example **127** more

6. People built Cliff Palace from about **1190** to **1260** CE. About how many years was that?

_____ years

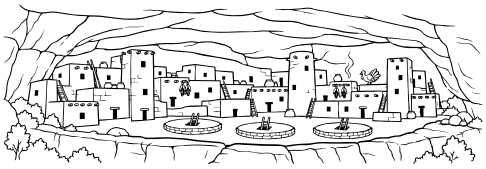
7. About **100** people lived at Cliff Palace, which had about **150** rooms. How many more rooms than people?

_____ more

8. A kiva has **6** pillars. How many pillars do **4** kivas have?

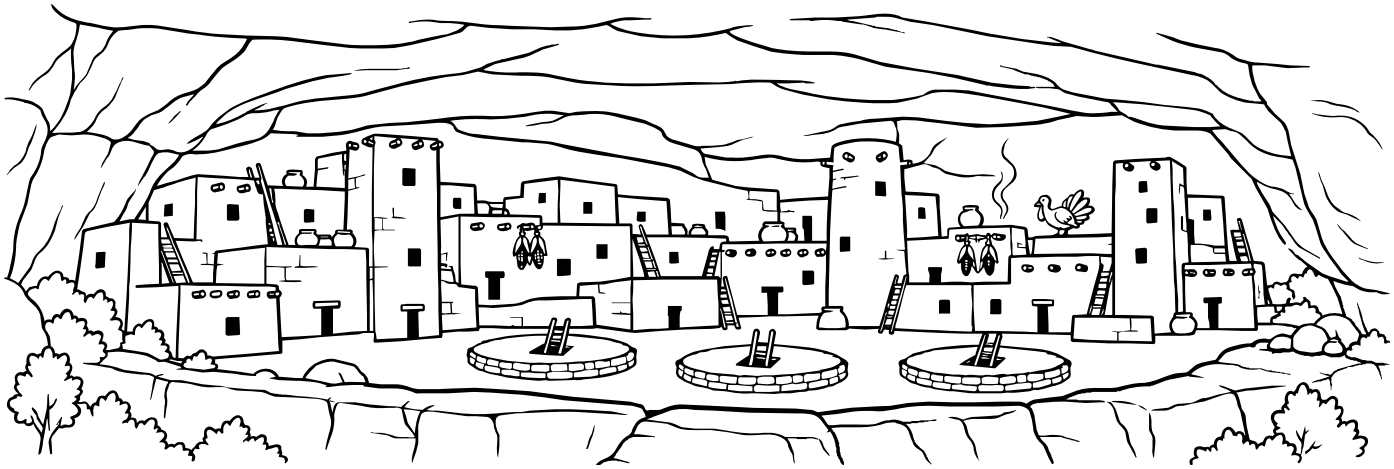
_____ pillars

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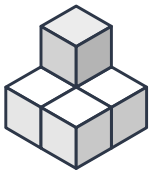
Cliff Dwellings Math

Each cube is one room. How many rooms?



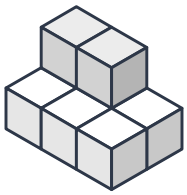
Cliff Palace, at Mesa Verde in Colorado, is the largest cliff dwelling in North America. Ancestral Puebloan people built it of sandstone, beams and mortar about **1190** to **1260** CE. It had about **150** rooms, side by side and stacked up.

1. Example



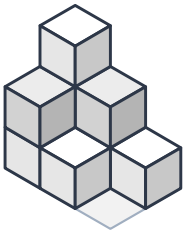
5 rooms

2.



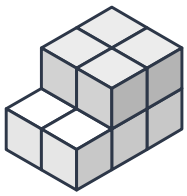
8 rooms

3.



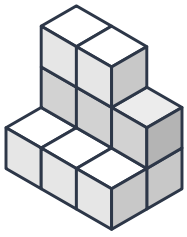
9 rooms

4.



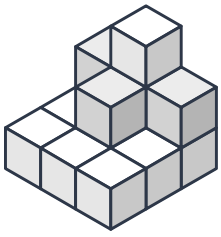
10 rooms

5.



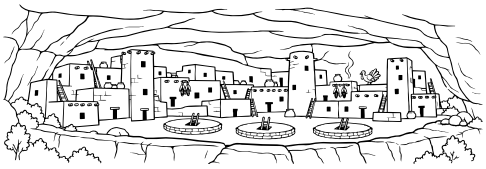
11 rooms

6.



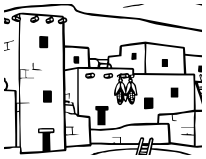
14 rooms

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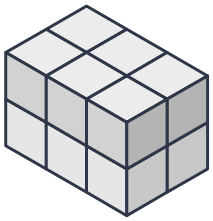
Cliff Dwellings Math

Count the rooms in a layer, then the layers.



Rooms at Cliff Palace were built in stories, one on top of another, like layers. Every layer of these room blocks has the same rooms. Rooms in one layer × number of layers = rooms in all.

1. Example

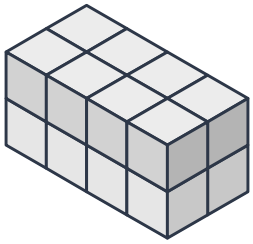


one layer: 6

layers: 2

6 × 2 = 12 rooms

2.

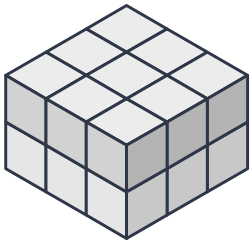


one layer: 8

layers: 2

8 × 2 = 16 rooms

3.

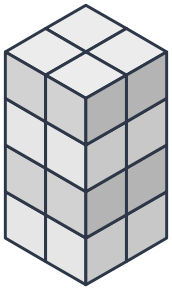


one layer: 9

layers: 2

9 × 2 = 18 rooms

4.

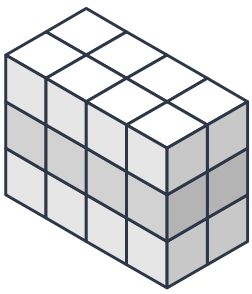


one layer: 4

layers: 4

4 × 4 = 16 rooms

5.

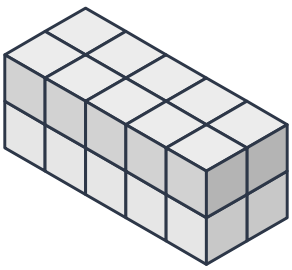


one layer: 8

layers: 3

8 × 3 = 24 rooms

6.

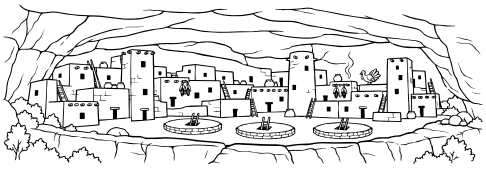


one layer: 10

layers: 2

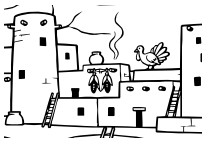
10 × 2 = 20 rooms

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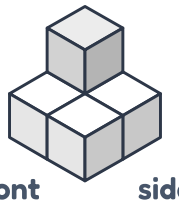
Cliff Dwellings Math

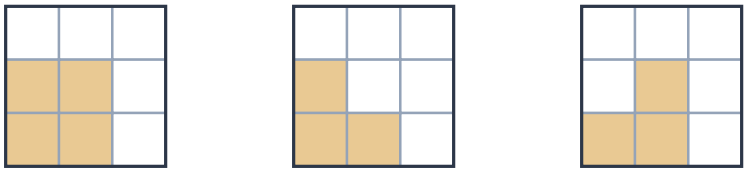
Shade what you see from the top, front, side.



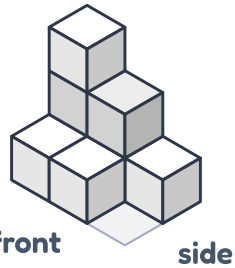
Builders plan a building from more than one side. Look at each room block from the top, from the front and from the side, and shade one square for each cube face you would see.

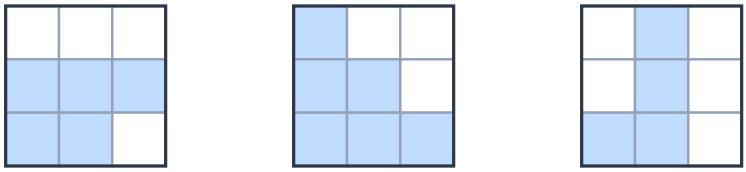
1. Example



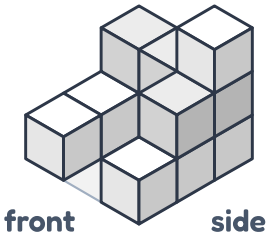


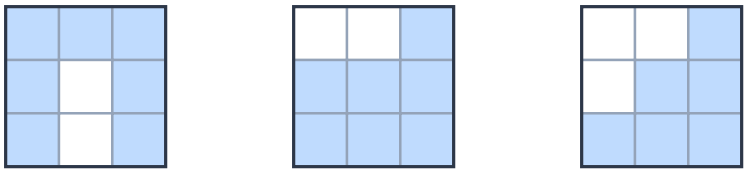
2.



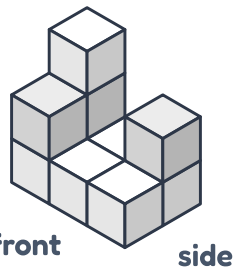


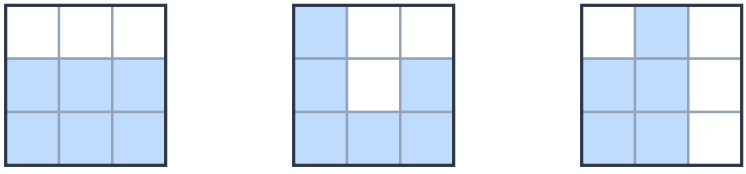
3.



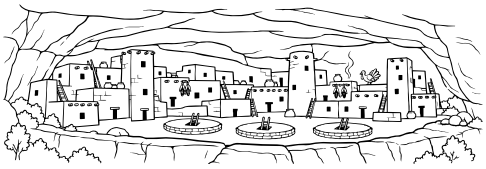


4.





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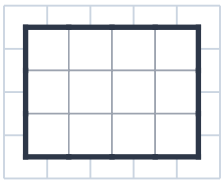
Cliff Dwellings Math

Find the area and perimeter of each plan.



Many rooms at Cliff Palace were small and fit together like puzzle pieces along the back of the cave. These floor plans are drawn on grid paper. Each square is 1 square unit.

1. Example



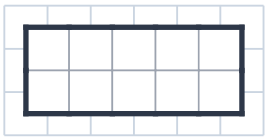
Area:

12 square units

Perimeter:

14 units

2.



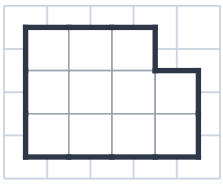
Area:

10 square units

Perimeter:

14 units

3.



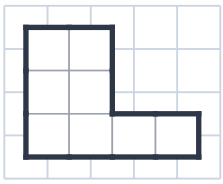
Area:

11 square units

Perimeter:

14 units

4.



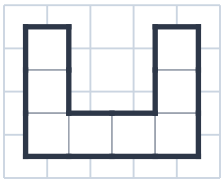
Area:

8 square units

Perimeter:

14 units

5.



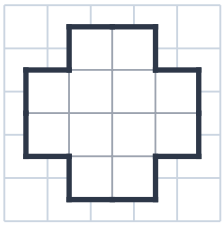
Area:

8 square units

Perimeter:

18 units

6.



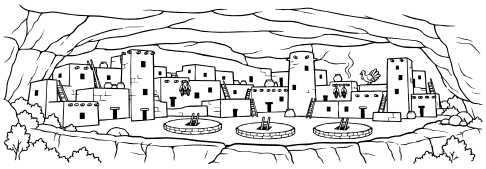
Area:

12 square units

Perimeter:

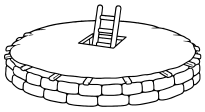
16 units

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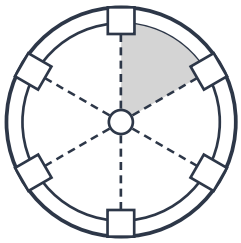
Cliff Dwellings Math

Kivas: name the shaded part. Then solve.



A kiva is a round room set down into the ground. Most kivas at Cliff Palace had six stone pillars around the wall that held up the roof. Here they split each kiva into **6** equal parts.
A full turn around the middle is 360°.

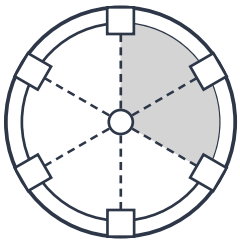
1. Example



shaded: **1/6**

angle: **60°**

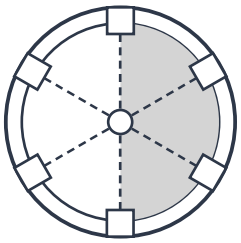
2.



shaded: **2/6**

angle: **120°**

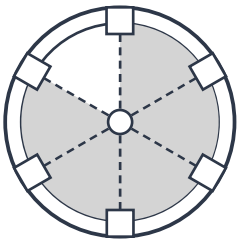
3.



shaded: **3/6**

angle: **180°**

4.



shaded: **5/6**

angle: **300°**

5. Cliff Palace had about **150** rooms and **23** kivas. How many more rooms than kivas?

150 − 23 = 127

Example **127** more

6. People built Cliff Palace from about **1190** to **1260** CE. About how many years was that?

1260 − 1190 = 70

70 years

7. About **100** people lived at Cliff Palace, which had about **150** rooms. How many more rooms than people?

150 − 100 = 50

50 more

8. A kiva has **6** pillars. How many pillars do **4** kivas have?

4 × 6 = 24

24 pillars

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