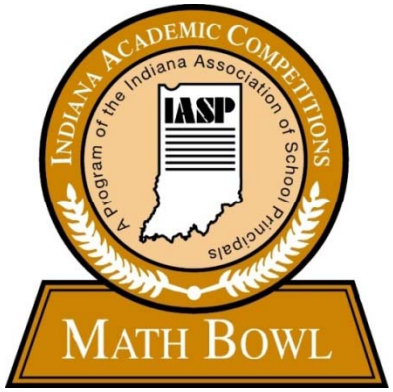
PURDUE
UNIVERSITY

Indiana Academic M.A.T.H. Bowl Invitational



February, 2009

Indiana State University
More. From day one.

Welcome

- Coaches, Proctors, Family, Guests
- Student Participants
- Staff
  - Emcee
  - Score keeper
  - Projection
  - Concessions
  - Site Coordinator

Coaches

Please see program for names of our terrific coaches who give much time to make this contest possible.

Coordinators: you may choose to put names here.

Hidden Slides for Emcee

Some slides, like this one, will be hidden during the contest and are meant for emcee only.

We have added explanations to some answer slides. These are meant for the audience but should not lengthen the contest. Please read only the letter choice and the answer aloud, not any explanation. Coaches will go over the explanations with team members later.

Hidden Note for the emcee

Read the sample question as
"The shamrock minus five is twenty. Which value of the shamrock will solve the equation?"

On the answer slide, read "twenty-five minus five is twenty" so the shamrock's value is 25. The answer is C.

Begin Practice Round

Please use the back of your answer sheet.

 - 5 = 20

A. 15

B. 4

C. 25

D. 10

2009 MATH Invitational Practice Round **30 second timer has started**

 - 5 = 20

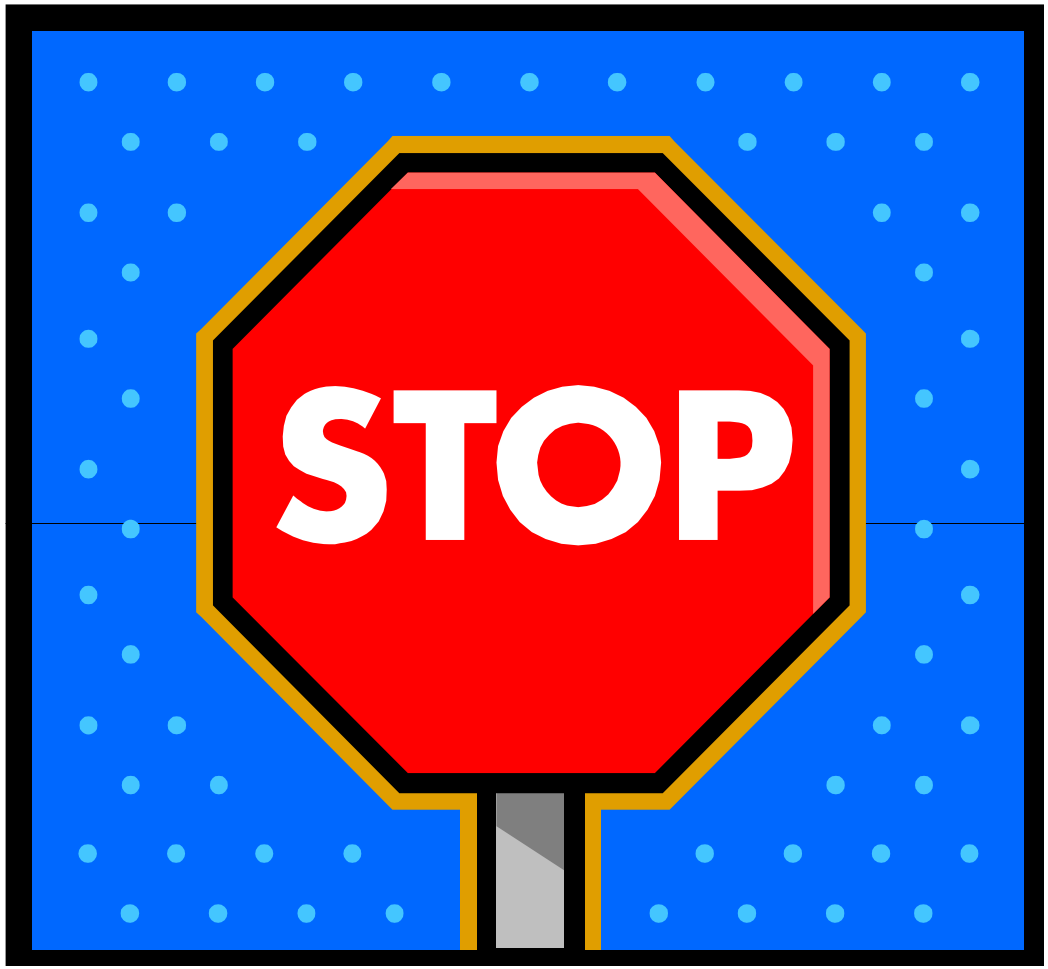
A. 15

B. 4

C. 25

D. 10

5 seconds



Pencils up, please.

 - 5 = 20

C. 25

Begin
Round
One

Put these integers in numerical order: 3, 0, -8, -17

A. 0, 3, -8, -17

B. 3, 0, -8, -17

C. -17, -8, 0, 3

D. -8, -17, 0, 3

Note to Emcee

Please read all choices using the word “negative”. For example, the numbers given in the problem are read “three, zero, negative eight, and negative seventeen.”

2009 MATH Invitational Round 1 Number 1 **30 second timer has started**

Put these integers in numerical order: 3, 0, -8, -17

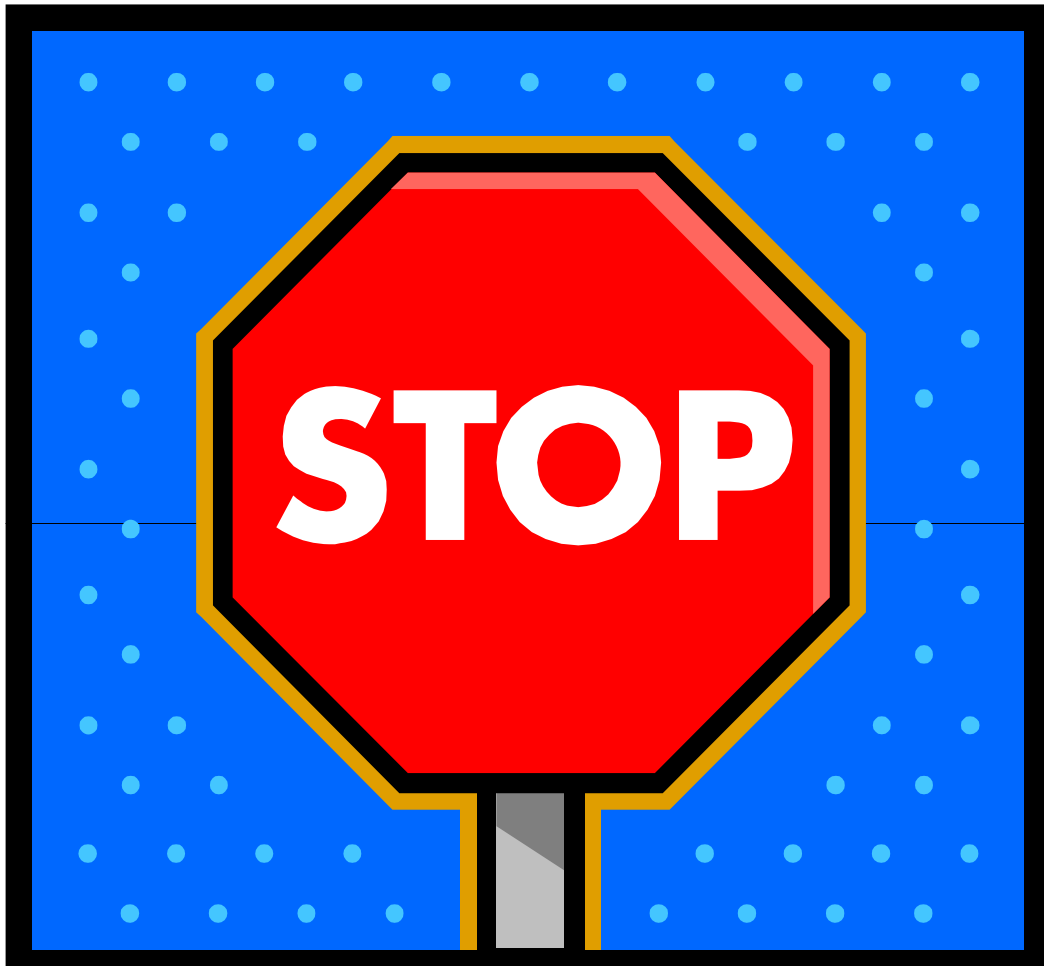
5 seconds

A. 0, 3, -8, -17

B. 3, 0, -8, -17

C. -17, -8, 0, 3

D. -8, -17, 0, 3



Pencils up, please.

Put these integers in numerical order: 3, 0, -8, -17

C. -17, -8, 0, 3

I'm thinking of a number with 3 digits.

-The first digit is odd.
-The last two digits are even.
-The sum of the first and last digits is 13.
-The product of the last two digits is 8.
-The difference of the first and last digits is 5.

What is my secret number?

A. 924

B. 742

C. 518

D. 524

2009 MATH Invitational Round 1 Number 2 **45 second timer has started**

I'm thinking of a number with 3 digits.

-The first digit is odd.
-The last two digits are even.
-The sum of the first and last digits is 13.
-The product of the last two digits is 8.
-The difference of the first and last digits is 5.

What is my secret number?

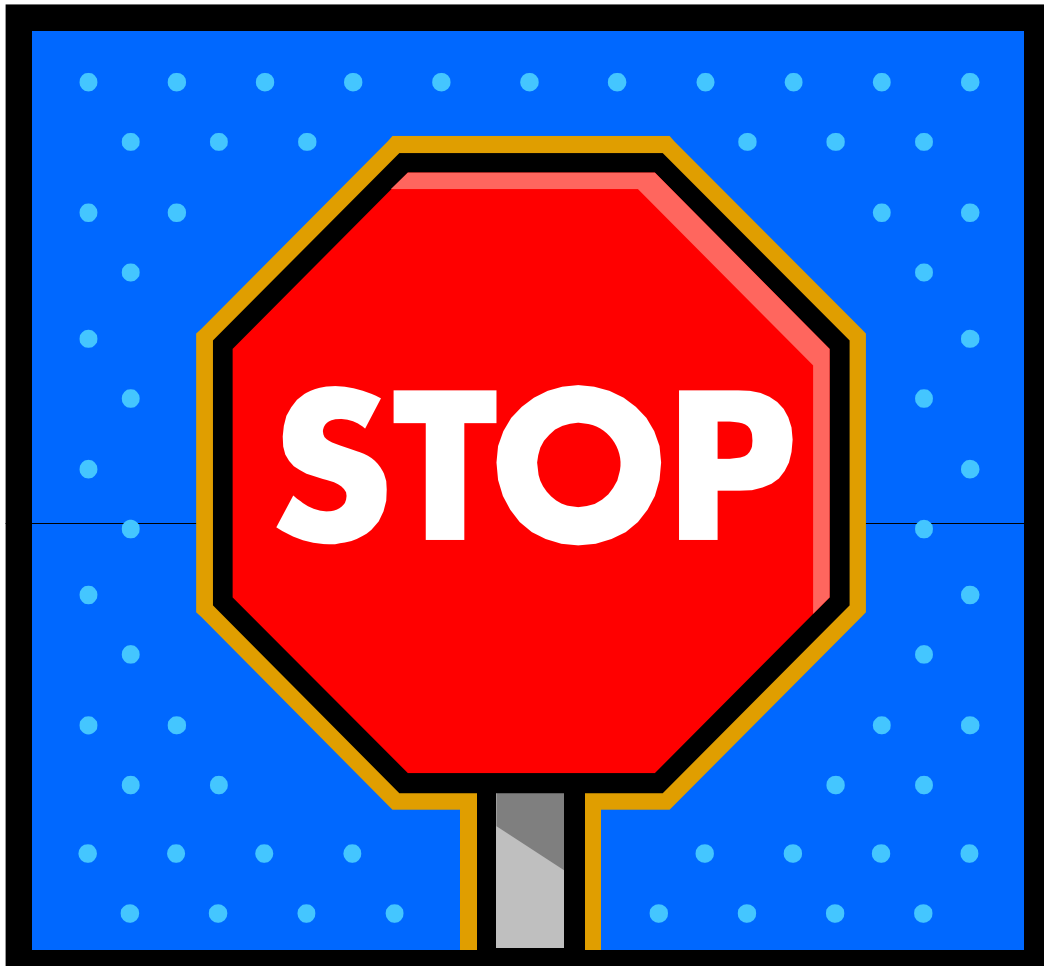
A. 924

B. 742

C. 518

D. 524

5 seconds



Pencils up, please.

I'm thinking of a number with 3 digits.

-The first digit is odd.
-The last two digits are even.
-The sum of the first and last digits is 13.
-The product of the last two digits is 8.
-The difference of the first and last digits is 5.

What is my secret number?

A. 924

Solve for x:

$$\frac{x}{200} = 42\%$$

A. 4.2

B. 8.4

C. 42

D. 84

2009 MATH Invitational Round 1 Number 3 **30 second timer has started**

Solve for *x*:

$$\frac{x}{200} = 42\%$$

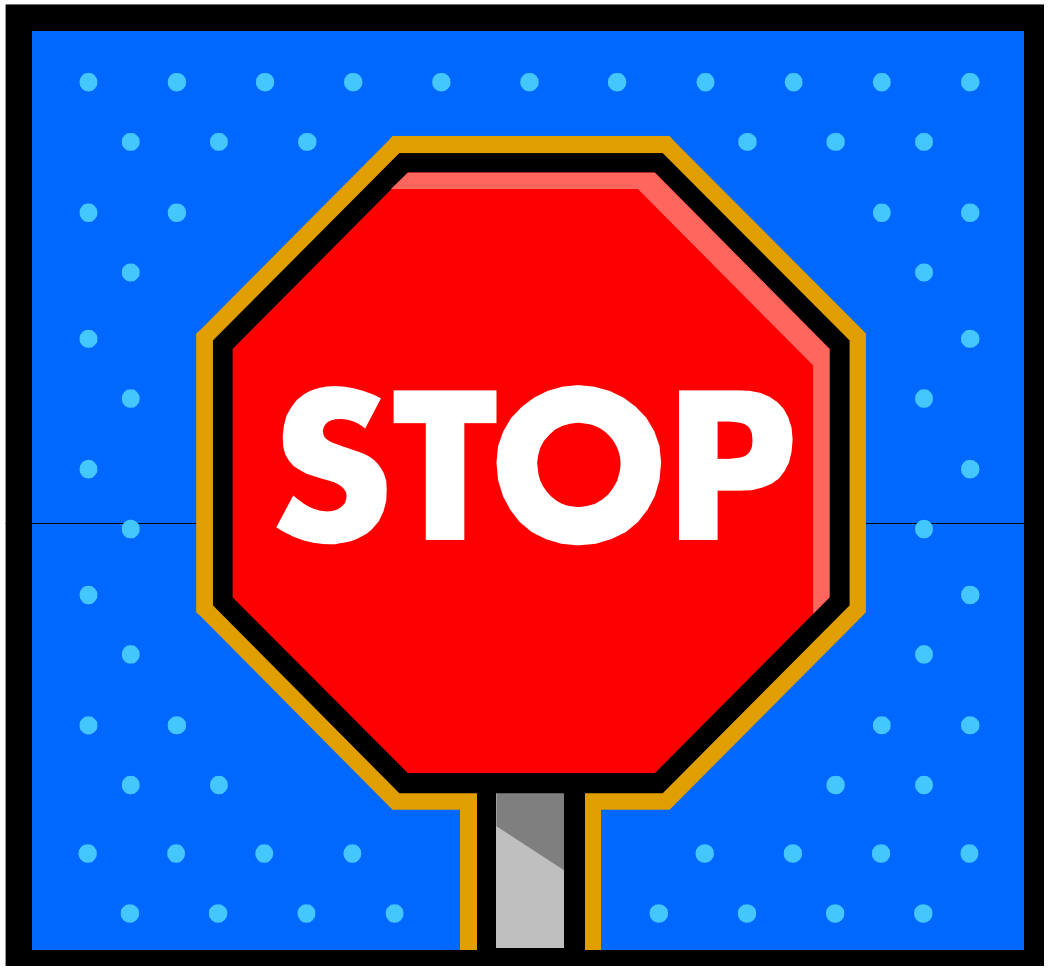
A. 4.2

B. 8.4

C. 42

D. 84

5 seconds



Pencils up, please.

Solve for x:

$$\frac{x}{200} = 42\%$$

42% means 42 for each 100. We have 200 so we need twice as much or 84.

D. 84

Which is an odd number?

A. 2^{99}

B. 3^{100}

C. $(3 + 3)^3$

D. $(2 + 2 + 2)^2$

Note to Emcee

Please read as

A. Two to the 99^{th} power
B. Three to the 100^{th} power
C. Open parentheses 3 plus 3 close parentheses all to the third power.
D. Open parentheses 2 plus 2 plus 2 close parentheses all to the second power.

 30 second timer has started

Which is an odd number?

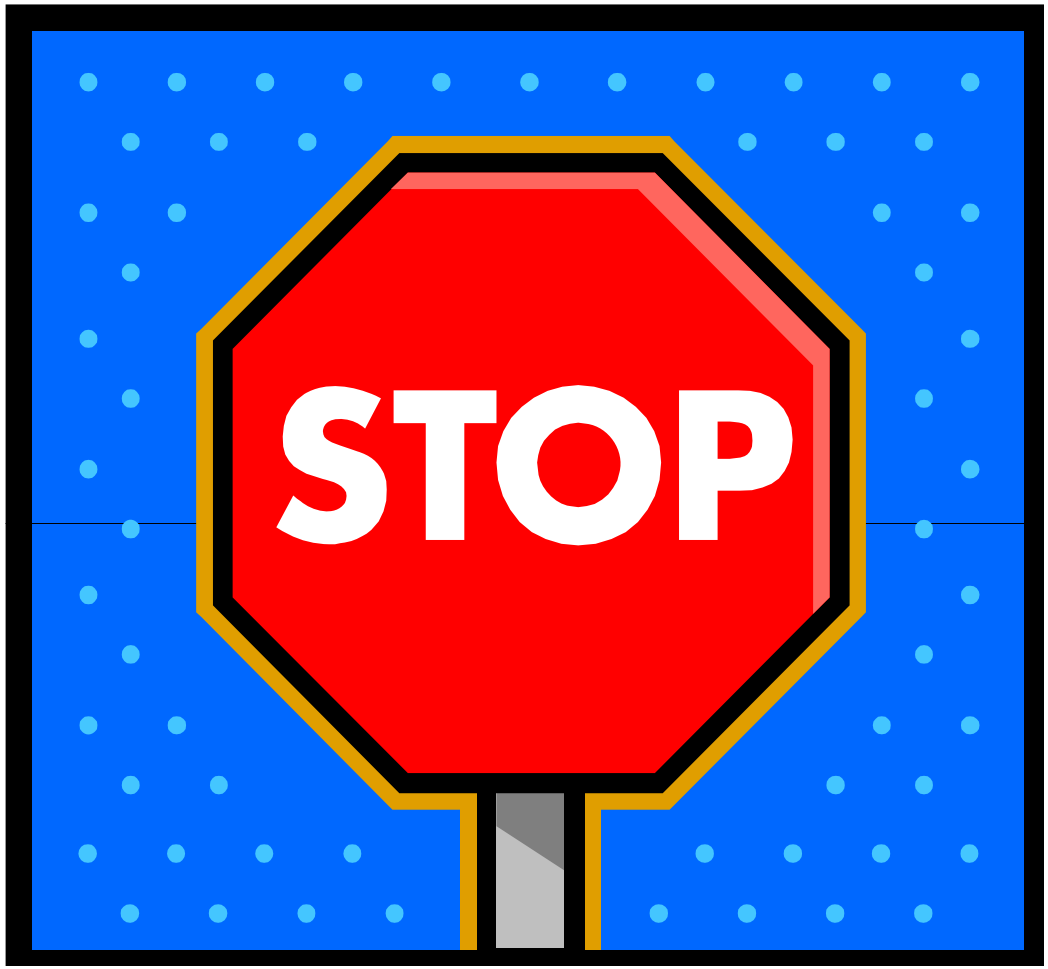
A. 2^{99}

B. 3^{100}

C. $(3 + 3)^3$

D. $(2 + 2 + 2)^2$

5 seconds



Pencils up, please.

Which is an odd number?

B. 3^{100}

Substitutions may be made at this time

What are the next two numbers in this pattern:

1, 2, 5, 10, 17, 26, __, __...

A. 35, 44

B. 36, 47

C. 37, 49

D. 37, 50

2009 MATH Invitational Round 1 Number 5 **45 second timer has started**

What are the next two numbers in this pattern:

1, 2, 5, 10, 17, 26, ___, ___...

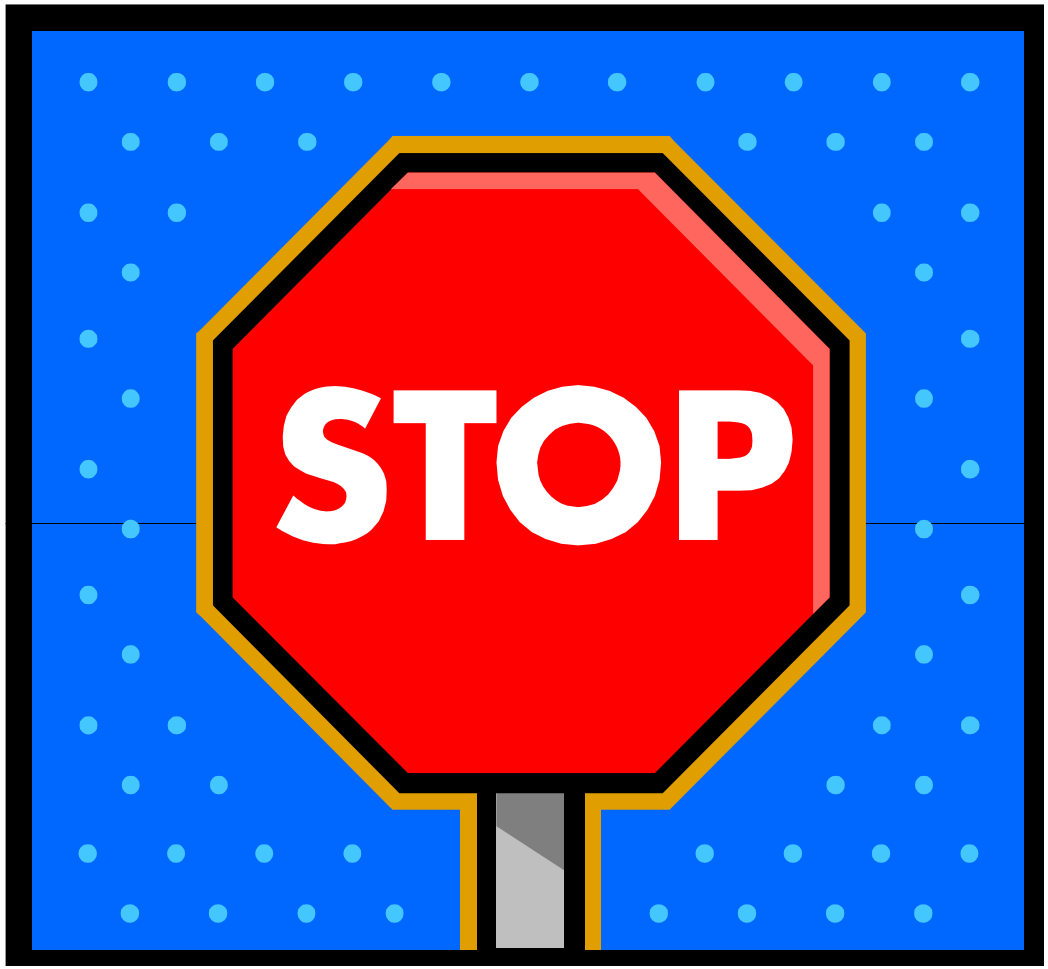
A. 35, 44

B. 36, 47

C. 37, 49

D. 37, 50

5 seconds



Pencils up, please.

2009 MATH Invitational Round 1 Number 5

What are the next two numbers in this pattern:

1, 2, 5, 10, 17, 26, ___, ___...

D. 37, 50

1 + 1 = 2
2 + 3 = 5
5 + 5 = 10
10 + 7 = 17
17 + 9 = 26
26 + 11 = 37
37 + 13 = 50
Keep adding next consecutive odd number

Multiply (3x + 1) (2x + 4) by the **FOIL** method.

A. $24x^2$

B. $6x^2 + 4$

C. $6x + 14x + 4$

D. $6x^2 + 14x + 4$

Multiply (3x + 1) (2x + 4) by the **FOIL** method.

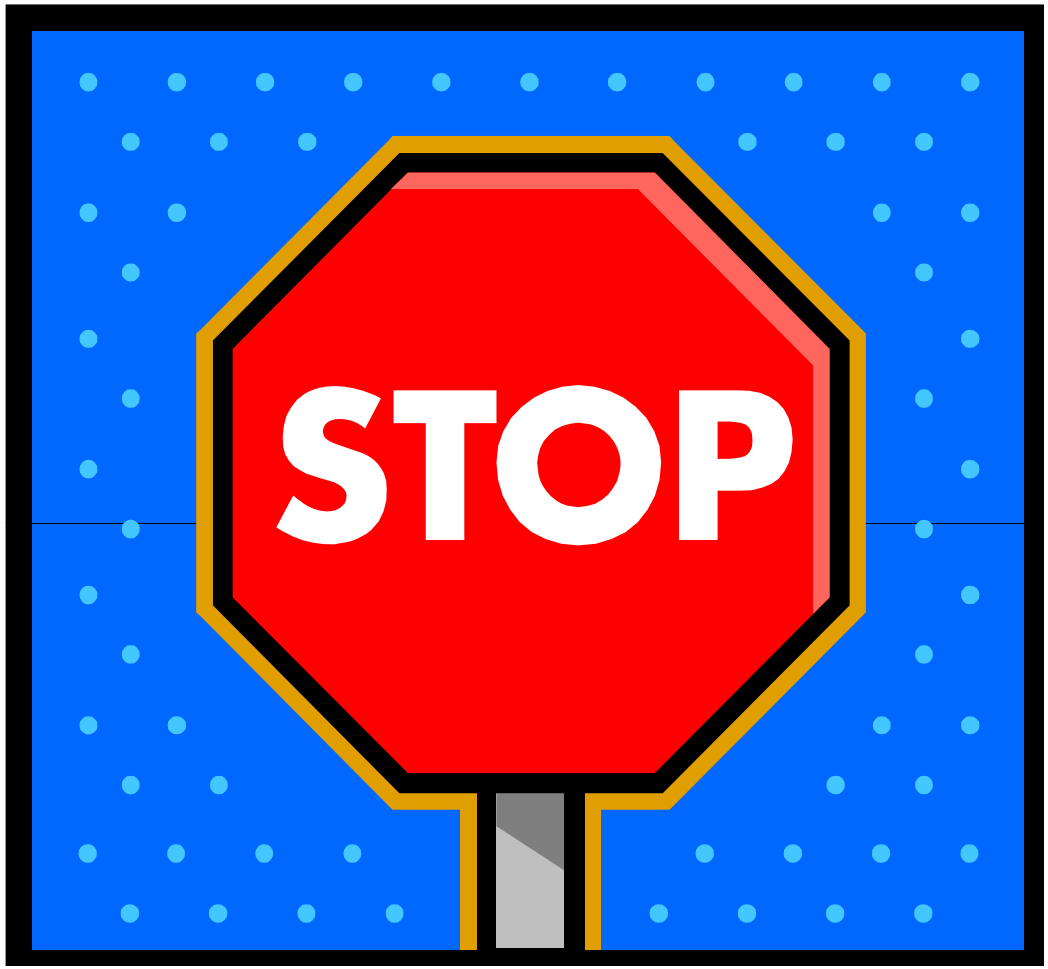
A. $24x^2$

B. $6x^2 + 4$

C. $6x + 14x + 4$

D. $6x^2 + 14x + 4$

5 seconds



Pencils up, please.

Multiply (3x + 1) (2x + 4) by the **FOIL** method.

First terms $(3x)(2x) = 6x^2$

Outer terms $(3x)(4) = 12x$

Inner terms $(1)(2x) = 2x$

Last terms $(1)(4) = 4$

Then add like outer and inner terms.

D. $6x^2 + 14x + 4$

While walking on the beach, Ken finds 1 seashell on the 1st day. He finds 2 seashells on the 2nd day, 5 seashells on the 3rd day, 14 seashells on the 4th day, and 41 seashells on the 5th day. If the pattern continues, how many seashells will Ken find on the 6th and 7th days?

A. 122 shells on the 6th, 365 shells on the 7th

B. 81 shells on the 6th, 243 shells on the 7th

C. 77 shells on the 6th, 122 shells on the 7th

D. 36 shells on the 6th, 45 shells on the 7th

2009 MATH Invitational Round 1 Number 7 **60 second timer has started**

While walking on the beach, Ken finds 1 seashell on the 1st day. He finds 2 seashells on the 2nd day, 5 seashells on the 3rd day, 14 seashells on the 4th day, and 41 seashells on the 5th day. If the pattern continues, how many seashells will Ken find on the 6th and 7th days?

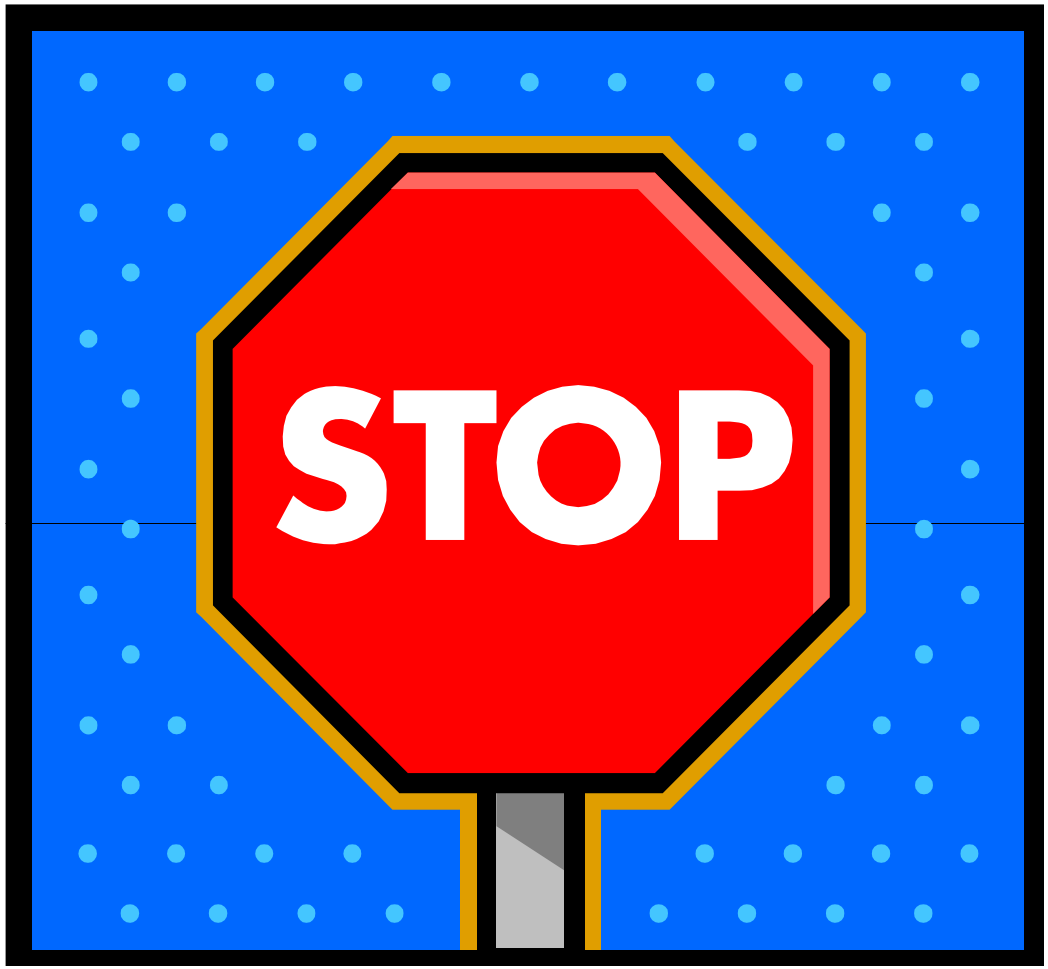
A. 122 shells on the 6th, 365 shells on the 7th

B. 81 shells on the 6th, 243 shells on the 7th

C. 77 shells on the 6th, 122 shells on the 7th

D. 36 shells on the 6th, 45 shells on the 7th

5 seconds



Pencils up, please.

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A. 122 shells on the 6th, 365 shells on the 7th

1 + 1 = 2
2 + 3 = 5
5 + 9 = 14
14 + 27 = 41
41 + 81 = 122
122 + 243 = 365

End
Round
One

Begin
Round
Two

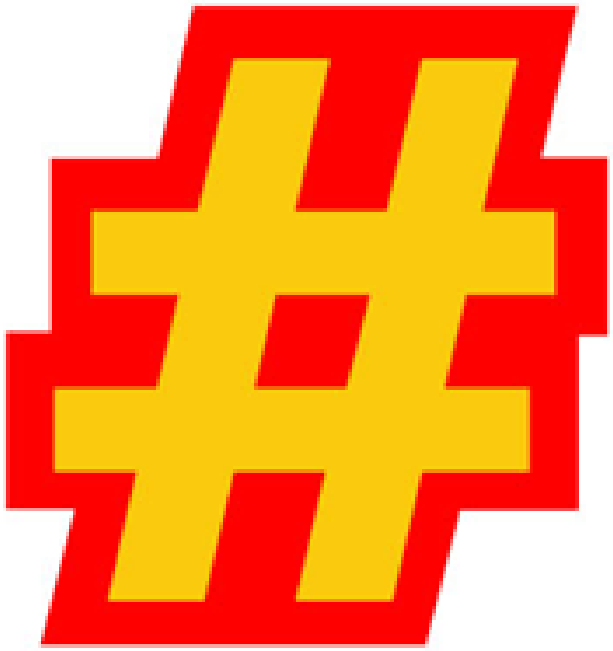
Which of the following sets contains the first five prime numbers?

A. 1, 2, 3, 4, 5

B. 1, 2, 3, 5, 7

C. 2, 3, 5, 7, 9

D. 2, 3, 5, 7, 11



2009 MATH Invitational Round 2 Number 1 **30 second timer has started**

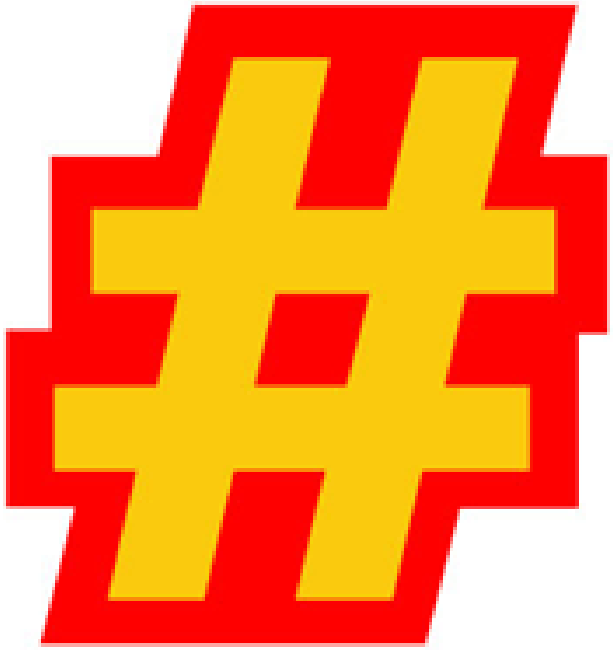
Which of the following sets contains the first five prime numbers?

A. 1, 2, 3, 4, 5

B. 1, 2, 3, 5, 7

C. 2, 3, 5, 7, 9

D. 2, 3, 5, 7, 11



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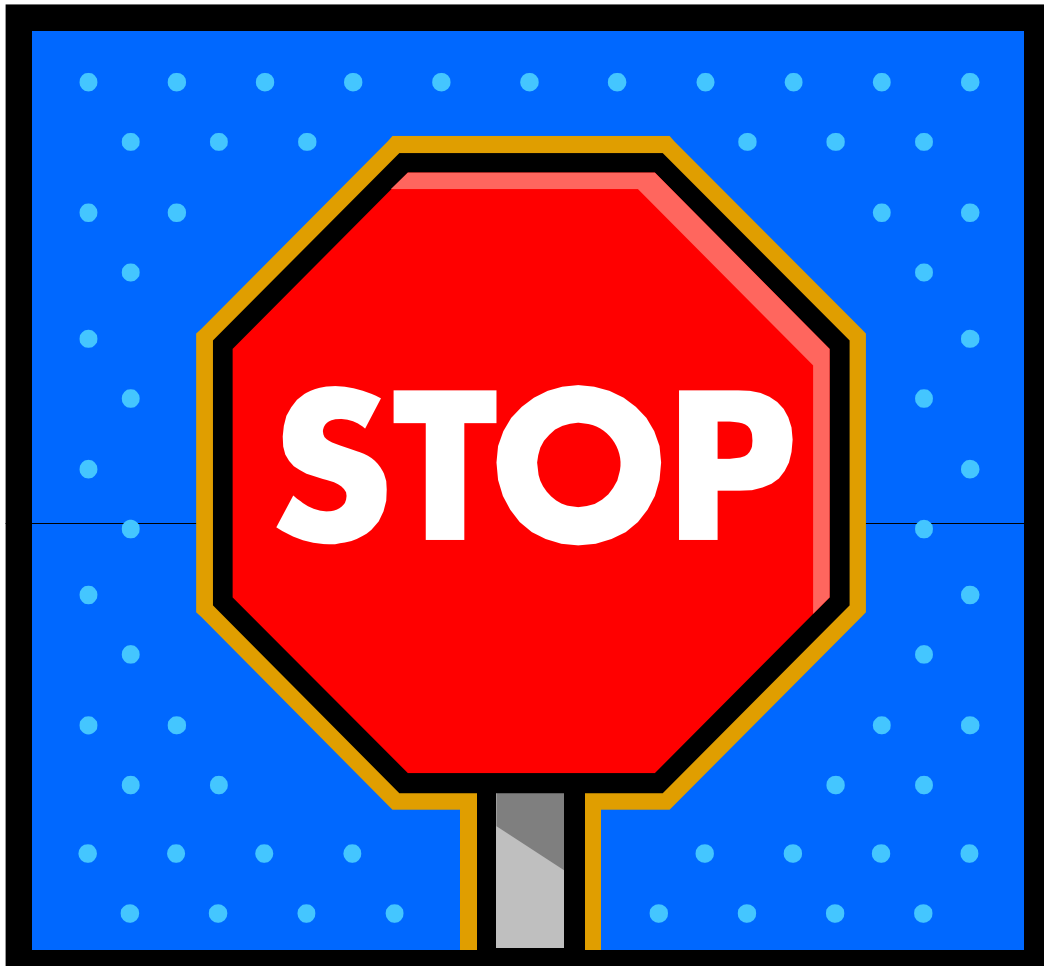
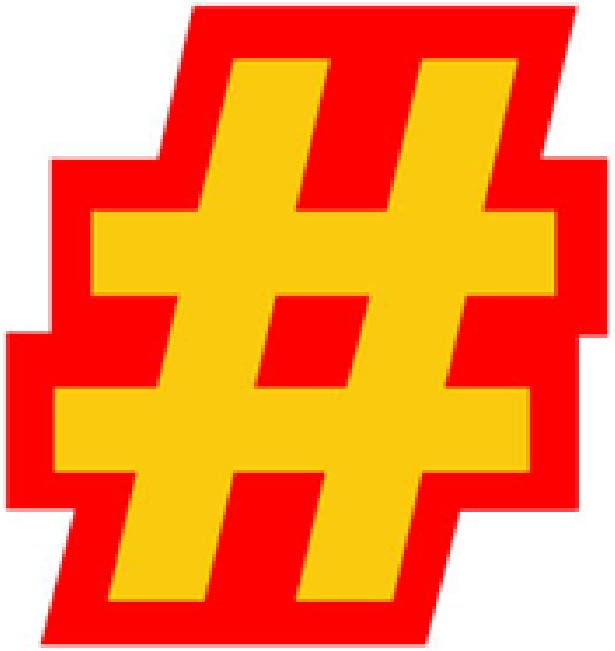


Pencils up, please.

Which of the following sets contains the first five prime numbers?

Prime numbers have exactly two factors.
1, 4, and 9 are NOT prime.

D. 2, 3, 5, 7, 11



The largest whole number divisor of 2,468 which is less than 2,468 is?

A. 2,467

B. 1,234

C. 842

D. 617

2009 MATH Invitational Round 2 Number 2 **30 second timer has started**

The largest whole number divisor of 2,468 which is less than 2,468 is?

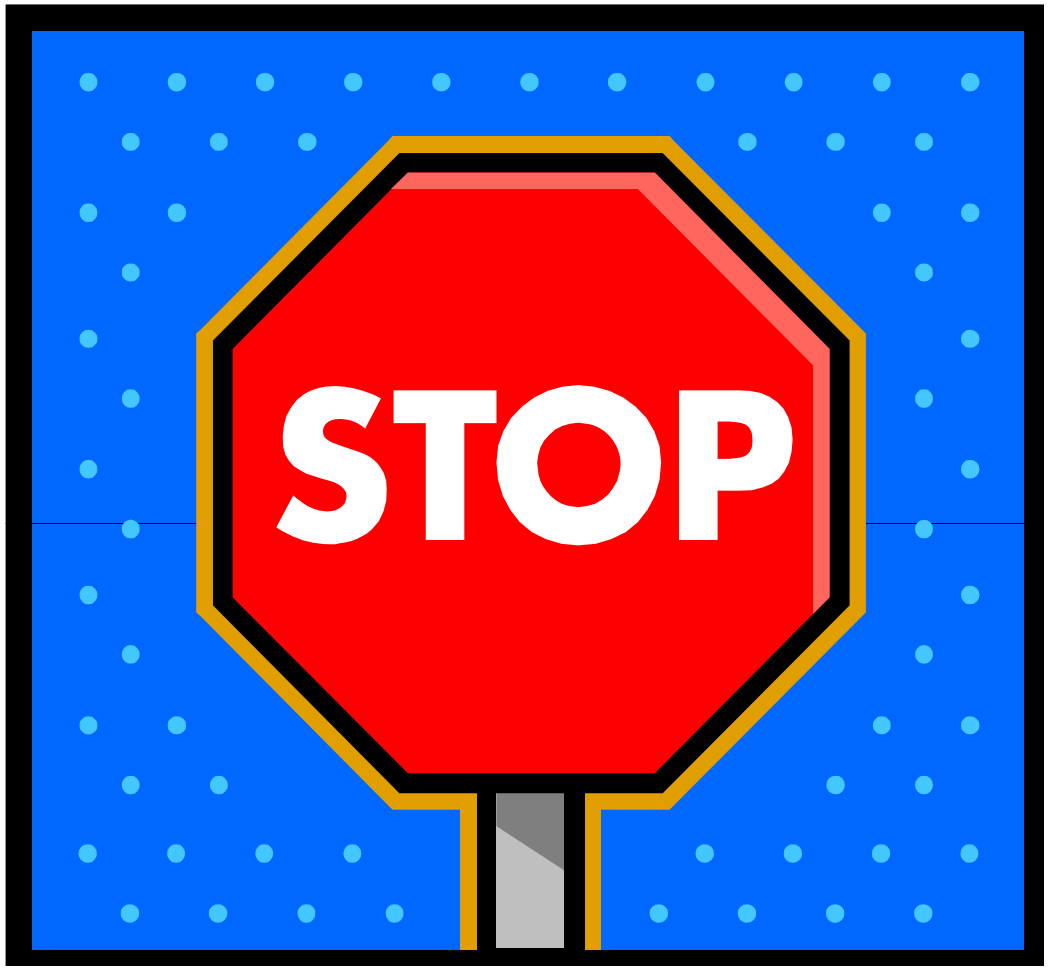
A. 2,467

B. 1,234

C. 842

D. 617

5 seconds



Pencils up, please.

The largest whole number divisor of 2,468 which is less than 2,468 is?

B. 1,234

Which of the following choices has the smallest least common multiple?

A. 6 and 7

B. 5 and 7

C. 3 and 7

D. 3 and 9

2009 MATH Invitational Round 2 Number 3 **45 second timer has started**

Which of the following choices has the smallest least common multiple?

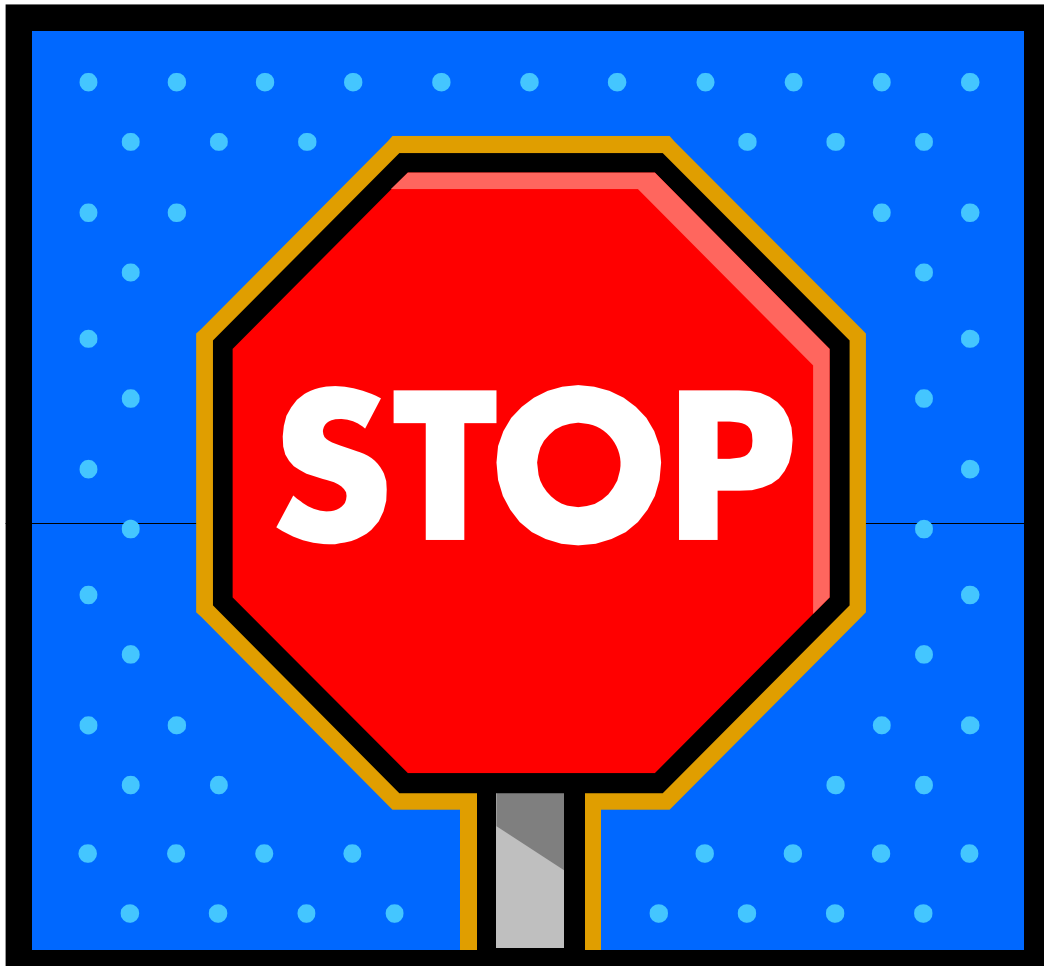
A. 6 and 7

B. 5 and 7

C. 3 and 7

D. 3 and 9

5 seconds



Pencils up, please.

2009 MATH Invitational Round 2 Number 3

Which of the following choices has the smallest least common multiple?

D. 3 and 9

Which sentence means the same as $6x - 5 = 7$?

A. Six times a number x less than five is seven

B. Five less than six times a number x is seven

C. Six times the difference of x and five is seven

D. Five decreased by six times a number is seven

2009 MATH Invitational Round 2 Number 4 **30 second timer has started**

Which sentence means the same as $6x - 5 = 7$?

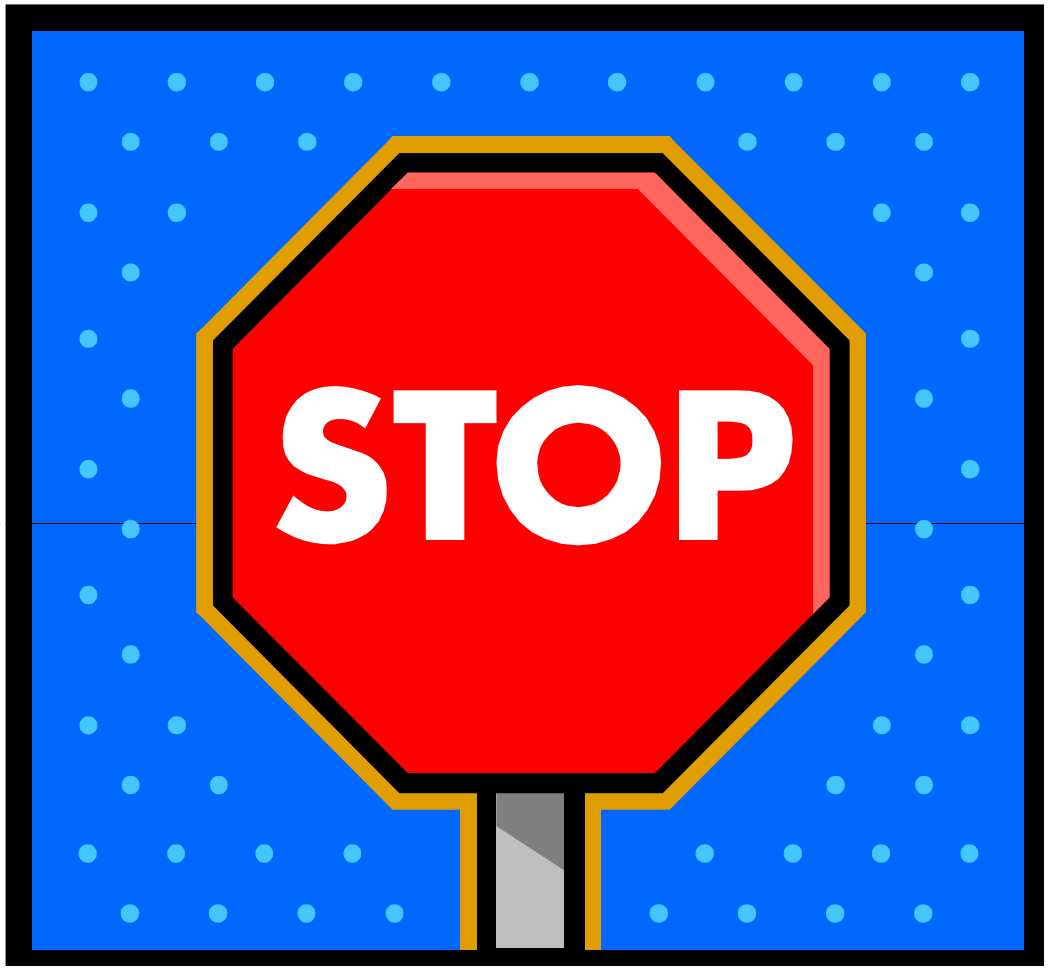
A. Six times a number x less than five is seven

B. Five less than six times a number x is seven

C. Six times the difference of x and five is seven

D. Five decreased by six times a number is seven

5 seconds



Pencils up, please.

2009 MATH Invitational Round 2 Number 4

Which sentence means the same as $6x - 5 = 7$?

B. Five less than six times a number x is seven

Substitutions may be made at this time

Find the number of quarters in $123.78.

A. 400

B. 450

C. 495

D. 496

 30 second timer has started

Find the number of quarters in $123.78.

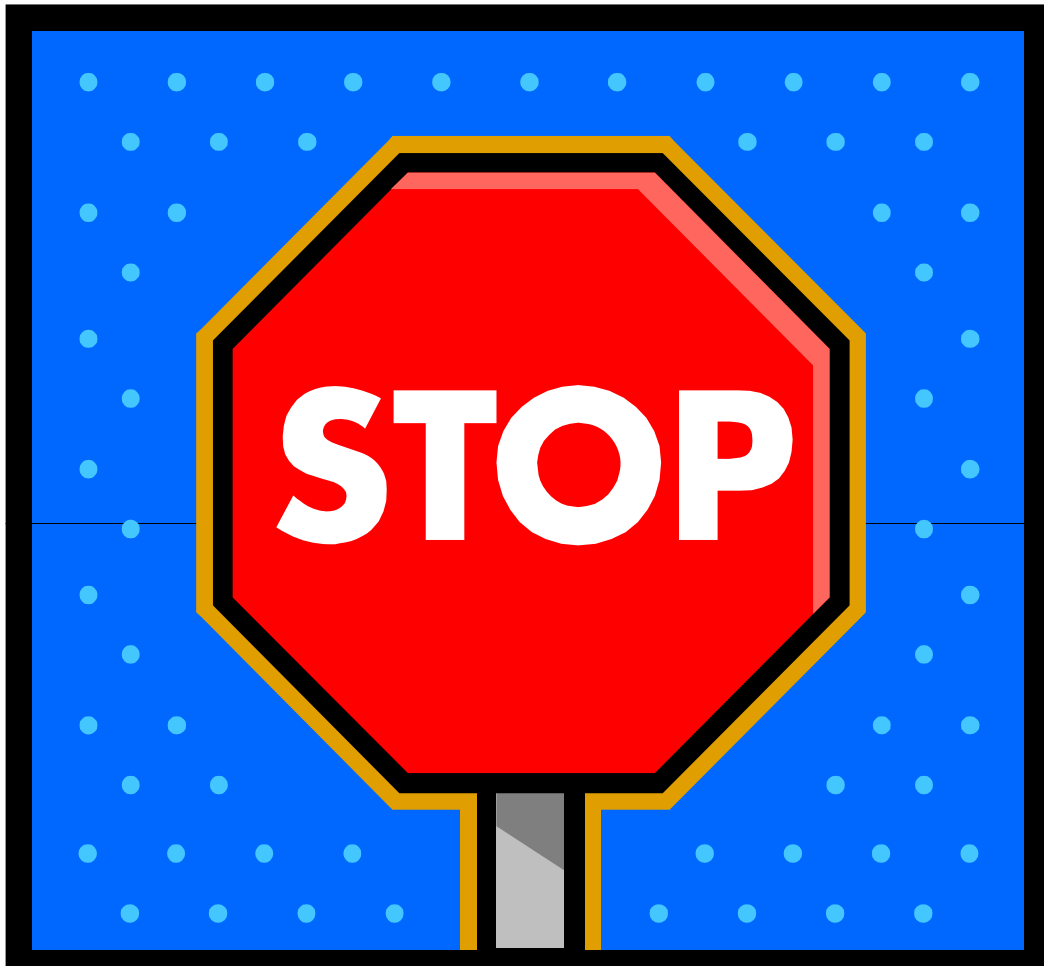
A. 400

B. 450

C. 495

D. 496

5 seconds



Pencils up, please.

Find the number of quarters in $123.78.

C. 495

Chris went to the grocery store to buy 3 items. Indiana charges a 7% sales tax on nonfood items. Chris bought 2 food items costing $1.21 and $1.94. He bought 1 nonfood item for $2.57. How much will he spend at the store?

A. $5.72

B. $5.89

C. $5.90

D. Not given

2009 MATH Invitational Round 2 Number 6 **60 second timer has started**

Chris went to the grocery store to buy 3 items. Indiana charges a 7% sales tax on nonfood items. Chris bought 2 food items costing $1.21 and $1.94. He bought 1 nonfood item for $2.57. How much will he spend at the store?

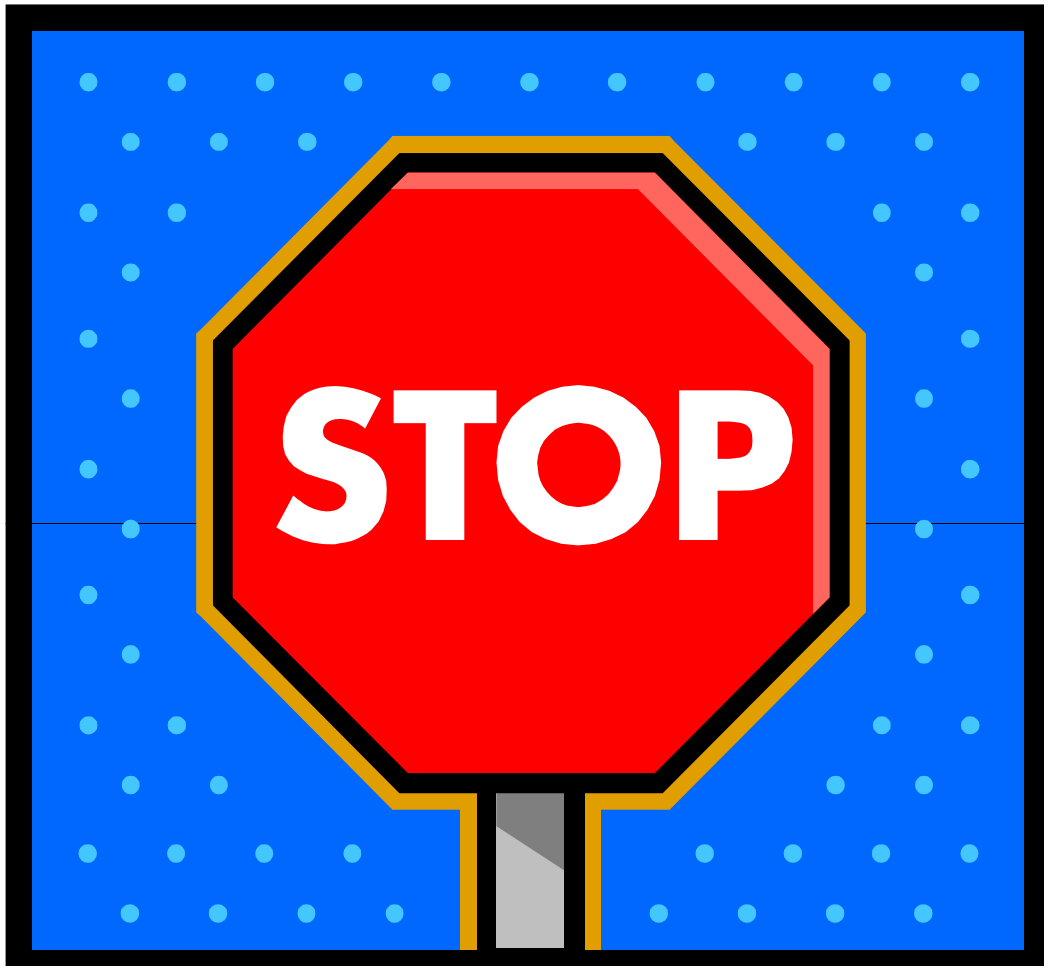
A. $5.72

B. $5.89

C. $5.90

D. Not given

5 seconds



Pencils up, please.

2009 MATH Invitational Round 2 Number 6

Chris went to the grocery store to buy 3 items. Indiana charges a 7% sales tax on nonfood items. Chris bought 2 food items costing $1.21 and $1.94. He bought 1 nonfood item for $2.57. How much will he spend at the store?

C. $5.90

1.21 + 1.94 + 2.57 + 2.57*0.07 = $5.90

For plumbing repairs in the home, Mr. Fix-it charges $35 an hour plus a service-call charge. After working 3 hours in Mrs. Plummer's house, he charged her $130. How much does Mr. Fix-it charge for a service call?

A. $20

B. $25

C. $30

D. not given

2009 MATH Invitational Round 2 Number 7 **60 second timer has started**

For plumbing repairs in the home, Mr. Fix-it charges $35 an hour plus a service-call charge. After working 3 hours in Mrs. Plummer's house, he charged her $130. How much does Mr. Fix-it charge for a service call?

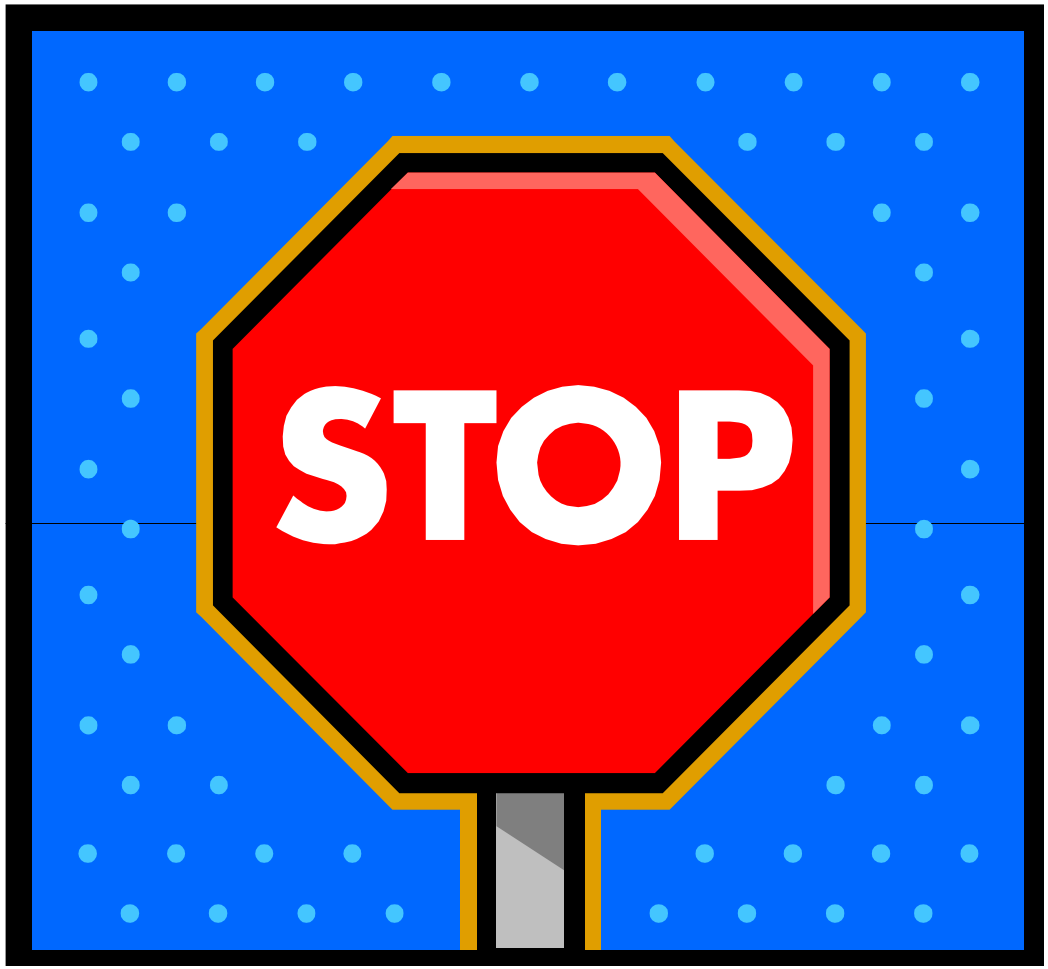
A. $20

B. $25

C. $30

D. not given

5 seconds



Pencils up, please.

2009 MATH Invitational Round 2 Number 7

For plumbing repairs in the home, Mr. Fix-it charges $35 an hour plus a service-call charge. After working 3 hours in Mrs. Plummer's house, he charged her $130. How much does Mr. Fix-it charge for a service call?

B. $25

130 – 3*35 = 25

End
Round
Two

Begin
Round
Three

Multiply (7 + 5) (8 + 4)

A. 67

B. 134

C. 144

D. 1,120

2009 MATH Invitational Round 3 Number 1 **30 second timer has started**

Multiply (7 + 5) (8 + 4)

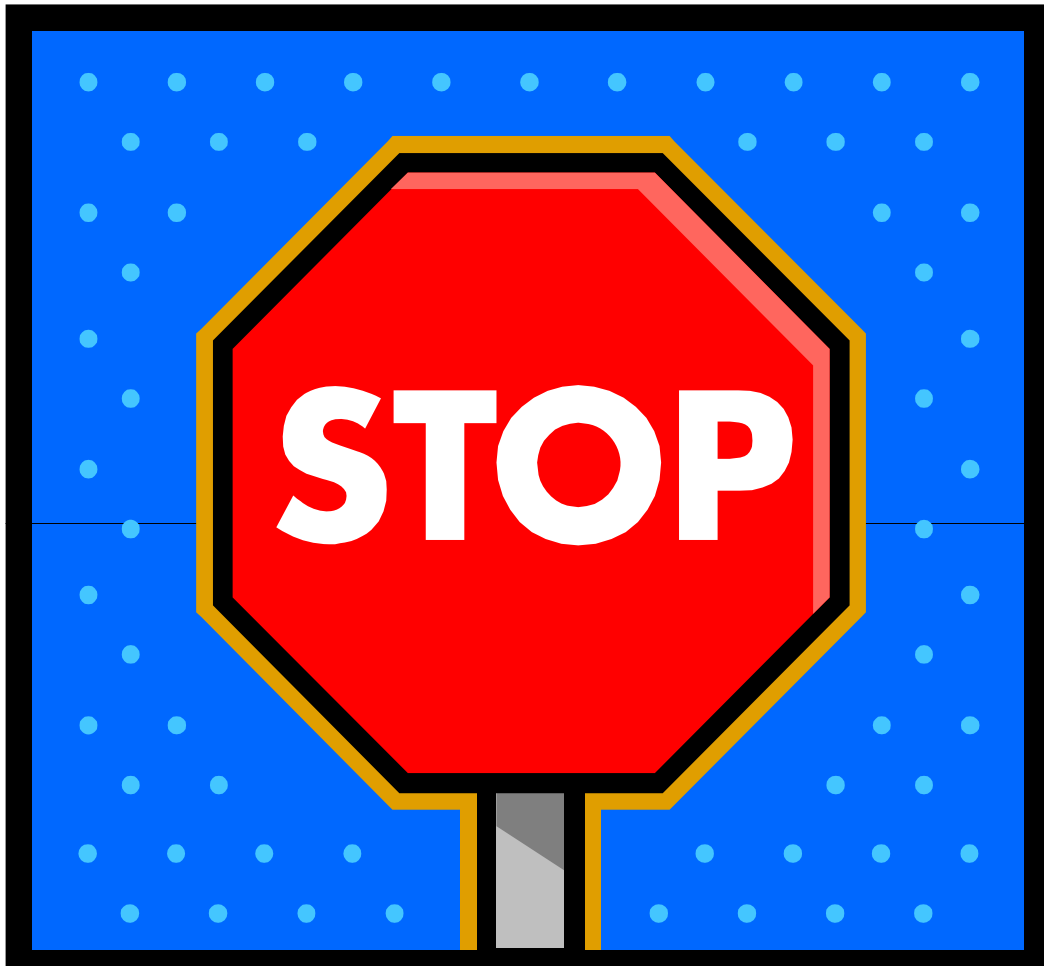
A. 67

B. 134

C. 144

D. 1,120

5 seconds



Pencils up, please.

Multiply (7 + 5) (8 + 4).

C. 144

$6^2 + 8^2 =$

A. 7^2

B. 10^2

C. 14^2

D. 28^2

2009 MATH Invitational Round 3 Number 2 **30 second timer has started**

$6^2 + 8^2 =$

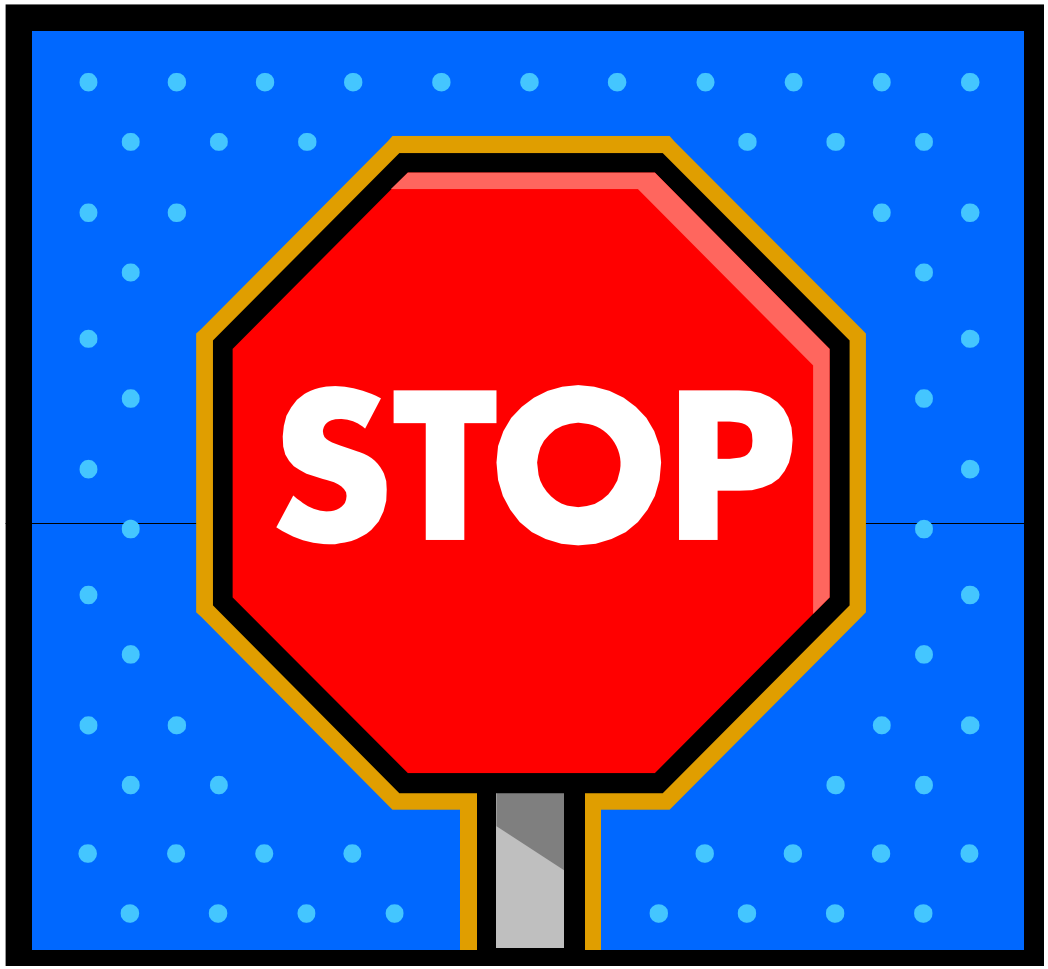
A. 7^2

B. 10^2

C. 14^2

D. 28^2

5 seconds



Pencils up, please.

2009 MATH Invitational Round 3 Number 2

$6^2 + 8^2 =$

B. 10^2

36 + 64 = 100

Which of the following sets of fractions are equivalent to 6/8?

A. 21/28, 6/10, 5/55, 21/35, 24/40

B. 1/2, 1/5, 4/20, 12/36, 4/12

C. 3/4, 9/12, 12/16, 15/20, 18/24

D. 36/48, 12/16, 9/81, 2/3, 12/16

 30 second timer has started

Which of the following sets of fractions are equivalent to 6/8?

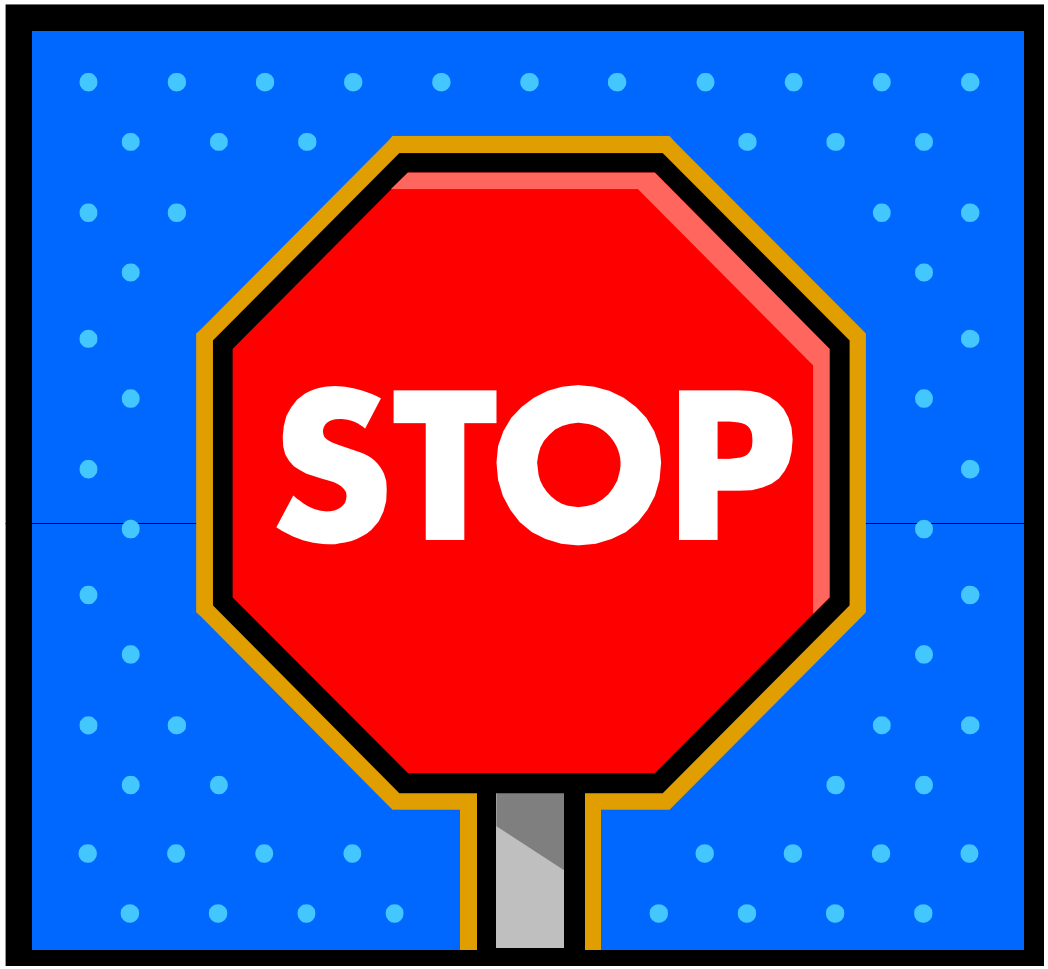
A. 21/28, 6/10, 5/55, 21/35, 24/40

B. 1/2, 1/5, 4/20, 12/36, 4/12

C. 3/4, 9/12, 12/16, 15/20, 18/24

D. 36/48, 12/16, 9/81, 2/3, 12/16

5 seconds



Pencils up, please.

Which of the following sets of fractions are equivalent to 6/8?

C. 3/4, 9/12, 12/16, 15/20, 18/24

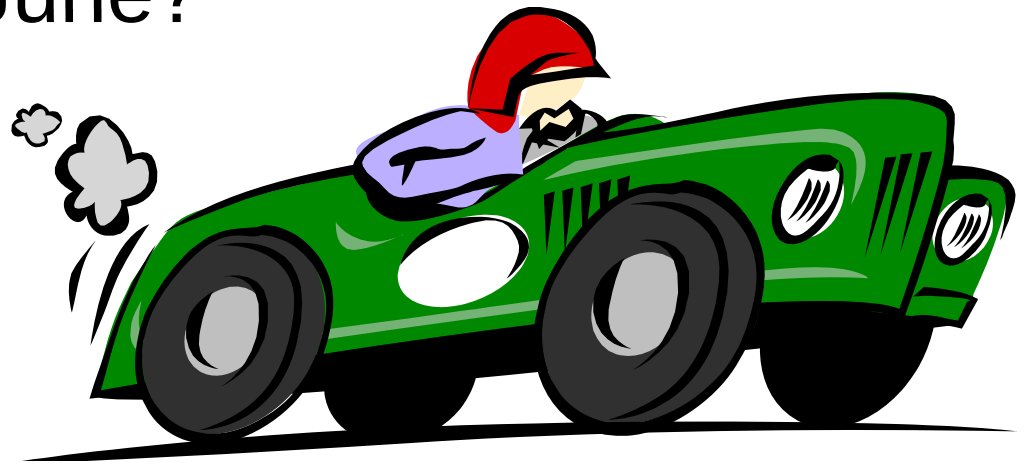
Jason enrolled in the U Drive It driving school. He drove 2,890 miles the first week of June. He drove 3,223 miles the second week and 4,998 miles the third week. His goal is to drive 12,000 miles in June. How many more miles does he have to drive to reach his goal in June?

A. 500 miles

B. 889 miles

C. 900 miles

D. 700 miles



2009 MATH Invitational Round 3 Number 4 **30 second timer has started**

Jason enrolled in the U Drive It driving school. He drove 2,890 miles the first week of June. He drove 3,223 miles the second week and 4,998 miles the third week. His goal is to drive 12,000 miles in June. How many more miles does he have to drive to reach his goal in June?

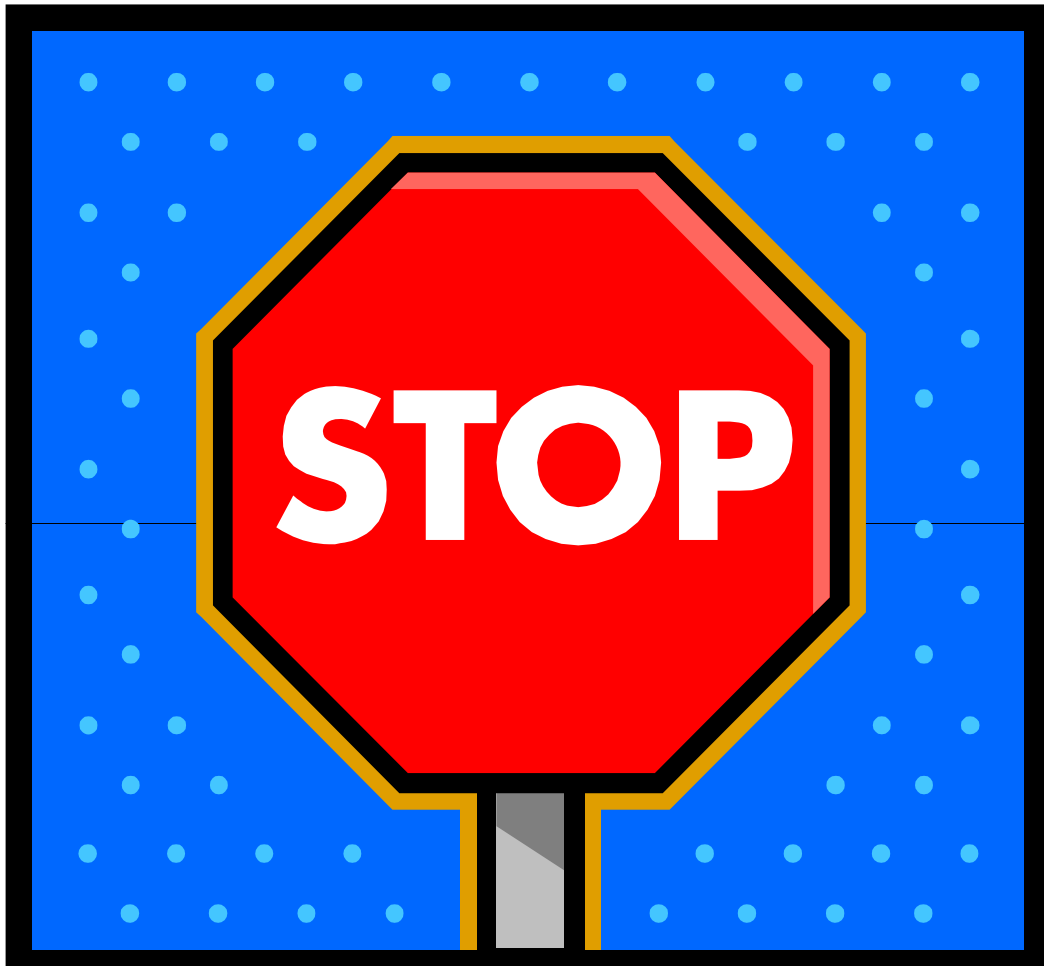
A. 500 miles

B. 889 miles

C. 900 miles

D. 700 miles

5 seconds



Pencils up, please.

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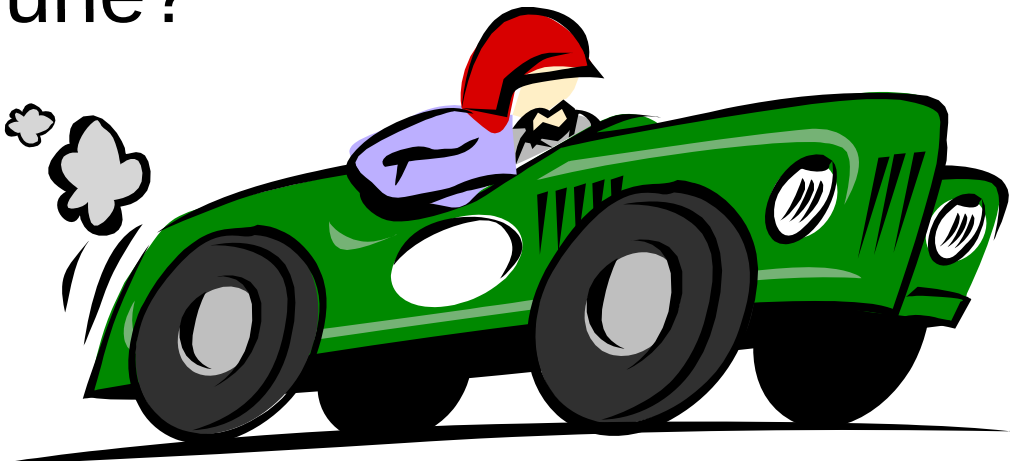
B. 889 miles



Substitutions may be made at this time

If the clock tower chimes twice every 15 minutes, how many times will it chime in one day?

A. 96 times

B. 192 times

C. 360 times

D. 720 times

 45 second timer has started

If the clock tower chimes twice every 15 minutes, how many times will it chime in one day?

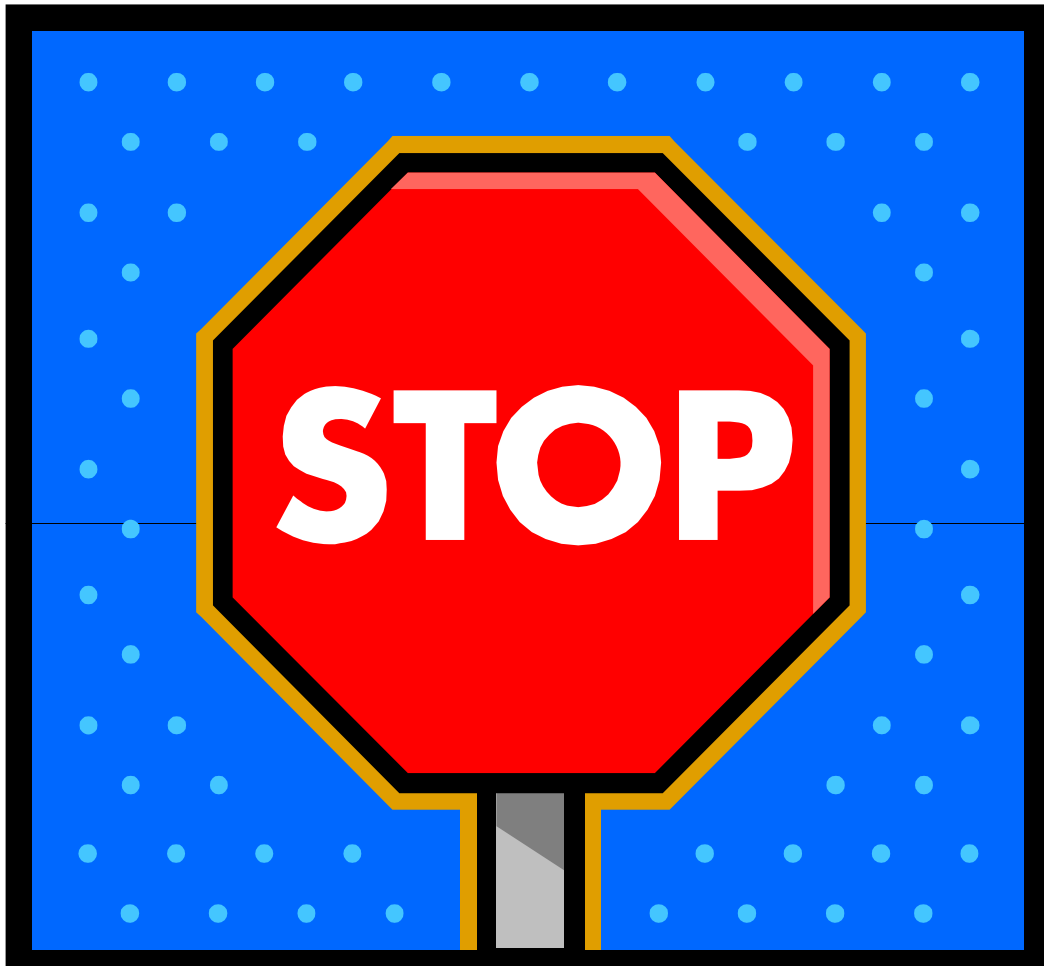
A. 96 times

B. 192 times

C. 360 times

D. 720 times

5 seconds



Pencils up, please.

2009 MATH Invitational Round 3 Number 5

If the clock tower chimes twice every 15 minutes, how many times will it chime in one day?

24 hours * 4 quarters/hour * 2 times/hour

B. 192 times

There are 84 legs in a dog show ring that has an equal number of people and dogs. How many dogs are there?

A. 14 dogs

B. 21 dogs

C. 28 dogs

D. 42 dogs

 45 second timer has started

There are 84 legs in a dog show ring that has an equal number of people and dogs. How many dogs are there?

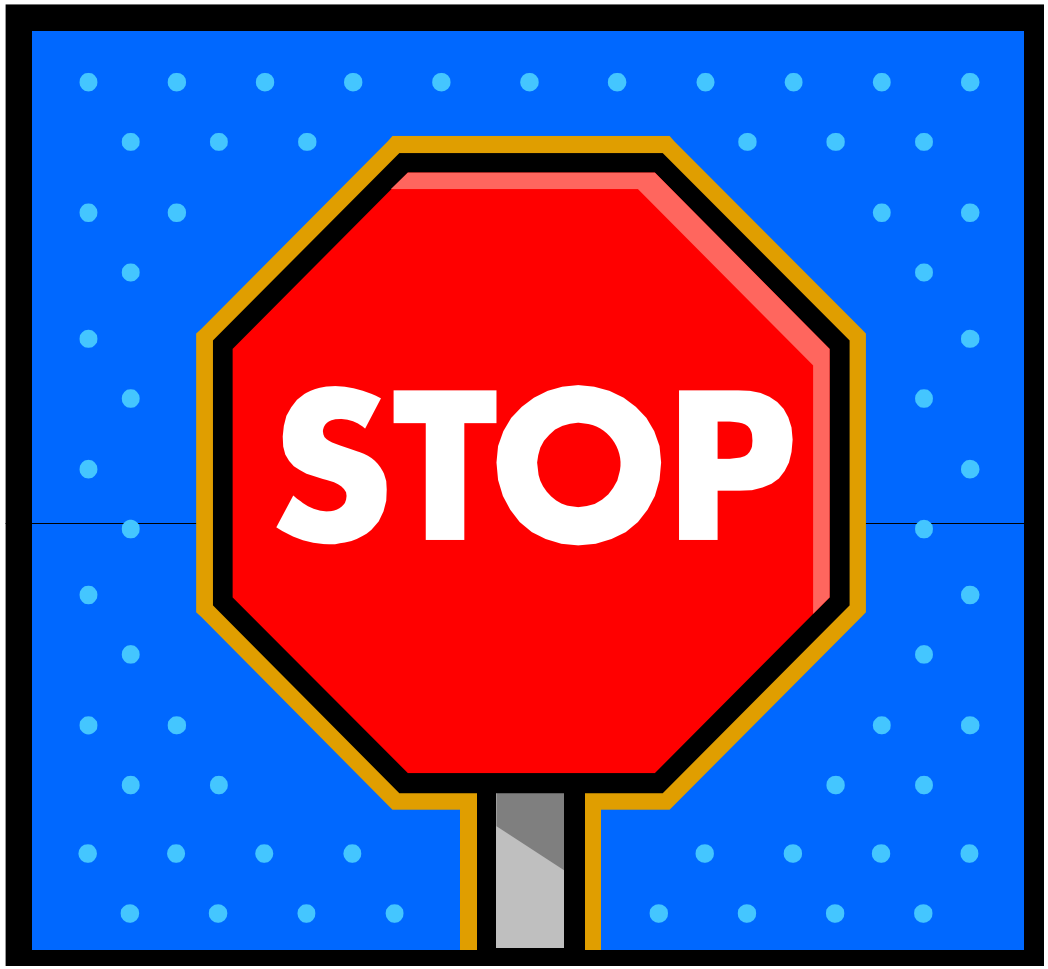
5 seconds

A. 14 dogs

B. 21 dogs

C. 28 dogs

D. 42 dogs



Pencils up, please.

There are 84 legs in a dog show ring that has an equal number of people and dogs. How many dogs are there?

A. 14 dogs

Guess and check to find 14.

$(14 * 4) + (14 * 2) = 84$

or

Solve $4x + 2x = 84$

$6x = 84$

$X = 14$

For Christmas gifts, Dave made and delivered slide show DVDs to his friends. He delivered ½ of the DVDs on Friday and $^1/_3$ of the DVDs on Saturday. On Sunday, he delivered the last 2 DVDs. In all, how many DVDs did he make and deliver?

A. 6 DVDs

B. 9 DVDs

C. 11 DVDs

D. 12 DVDs

 45 second timer has started

For Christmas gifts, Dave made and delivered slide show DVDs to his friends. He delivered ½ of the DVDs on Friday and $^1/_3$ of the DVDs on Saturday. On Sunday, he delivered the last 2 DVDs. In all, how many DVDs did he make and deliver?

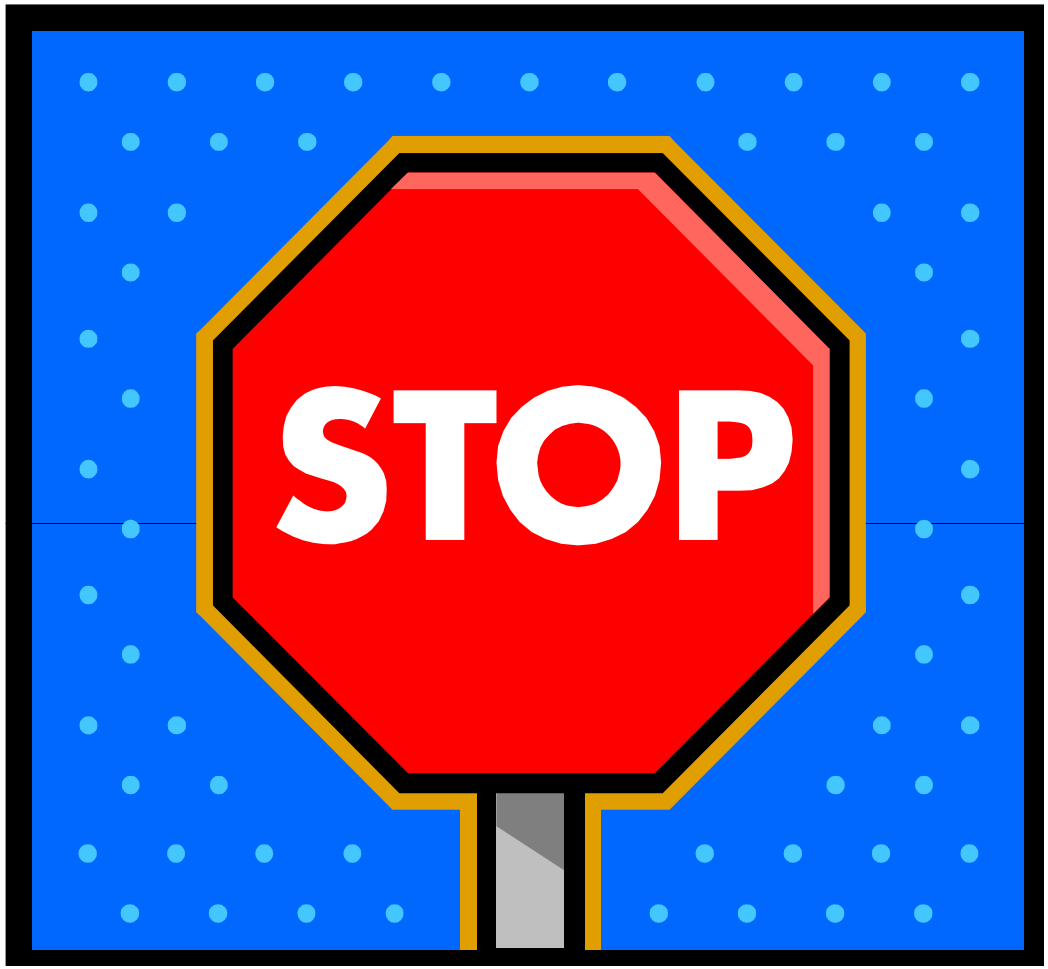
5 seconds

A. 6 DVDs

B. 9 DVDs

C. 11 DVDs

D. 12 DVDs



Pencils up, please.

For Christmas gifts, Dave made and delivered slide show DVDs to his friends. He delivered ½ of the DVDs on Friday and $^1/_3$ of the DVDs on Saturday. On Sunday, he delivered the last 2 DVDs. In all, how many DVDs did he make and deliver?

1/2 + 1/3 is 5/6 of total

So 1/6 = 2 DVDs

D. 12 DVDs

End
Round
Three

Begin
Round
Four

What is 13.7% of 500?

A. 6.85

B. 68.5

C. 685

D. 6,850

What is 13.7% of 500?

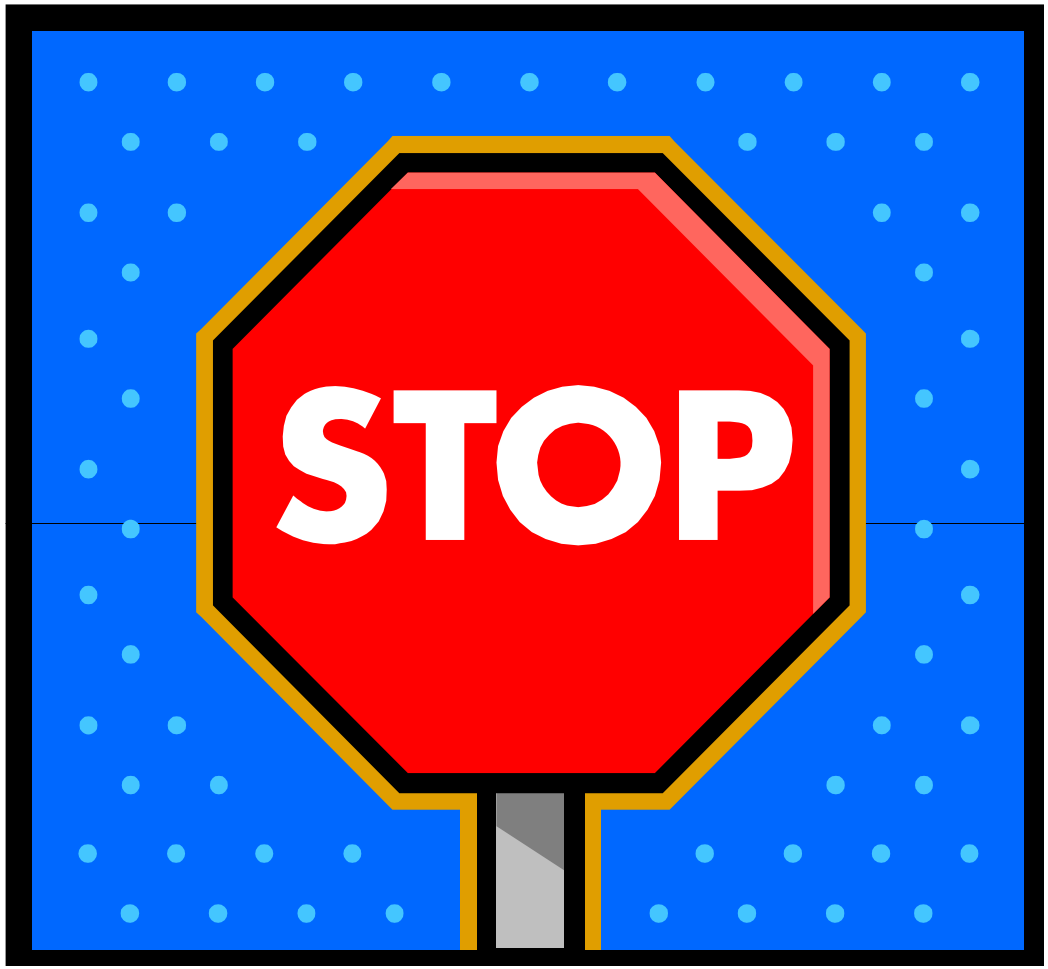
5 seconds

A. 6.85

B. 68.5

C. 685

D. 6,850



Pencils up, please.

What is 13.7% of 500?

B. 68.5

The average monthly temperature in Indianapolis during April is 12.2^{o} Celsius. Find the average temperature in degrees Fahrenheit using C=12.2 in the expression 1.8C + 32.

A. 21.96^{o} F

B. 33.8^{o} F

C. 42.2^{o} F

D. 53.96^{o} F

2009 MATH Invitational Round 4 Number 2 **45 second timer has started**

The average monthly temperature in Indianapolis during April is 12.2o Celsius. Find the average temperature in degrees Fahrenheit using C=12.2 in the expression 1.8C + 32.

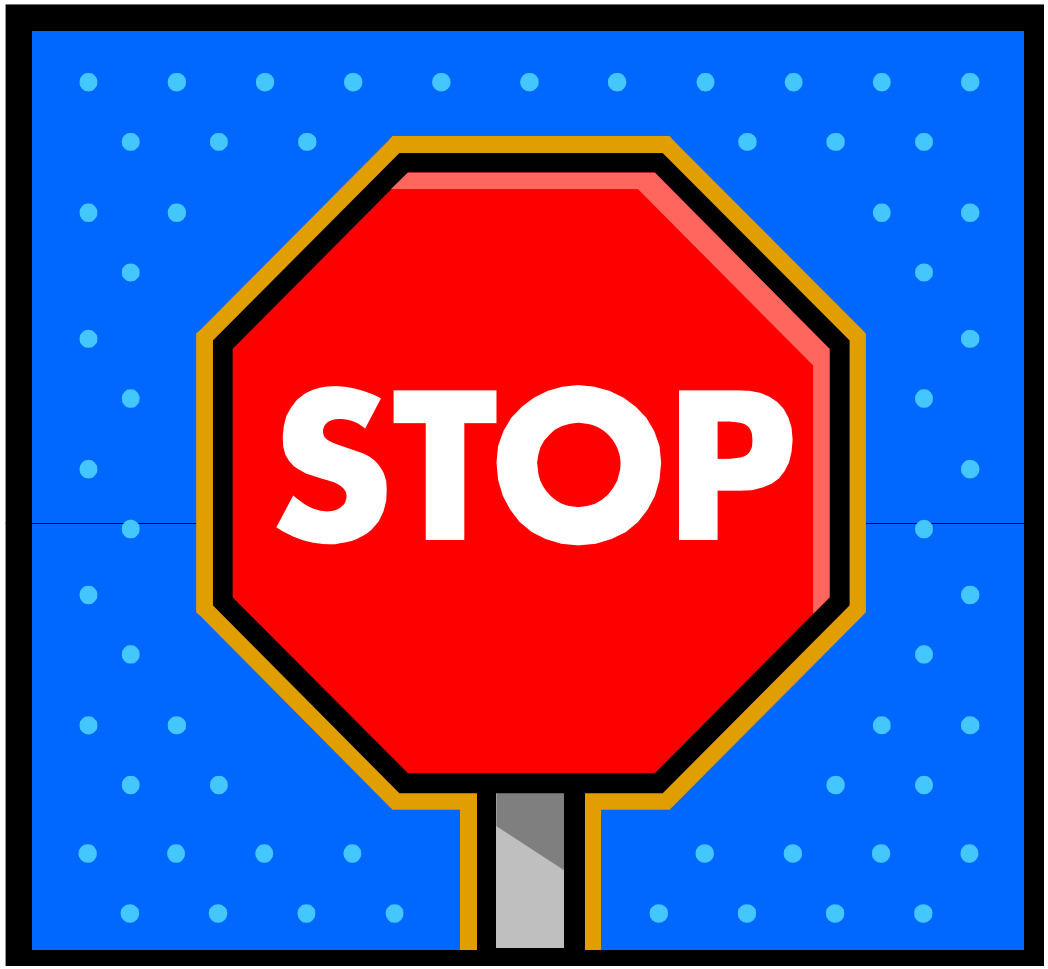
A. 21.96^{o} F

B. 33.8^{o} F

C. 42.2^{o} F

D. 53.96^{o} F

5 seconds



Pencils up, please.

2009 MATH Invitational Round 4 Number 2

The average monthly temperature in Indianapolis during April is 12.2o Celsius. Find the average temperature in degrees Fahrenheit using C=12.2 in the expression 1.8C + 32.

D. 53.96^{o} F

The scale of a map is 1 inch = 50 miles. If the distance between two cities is 5 ½ inches, what is the actual mileage?

A. 50 miles

B. 100 miles

C. 250 miles

D. 275 miles

 45 second timer has started

The scale of a map is 1 inch = 50 miles. If the distance between two cities is 5 ½ inches, what is the actual mileage?

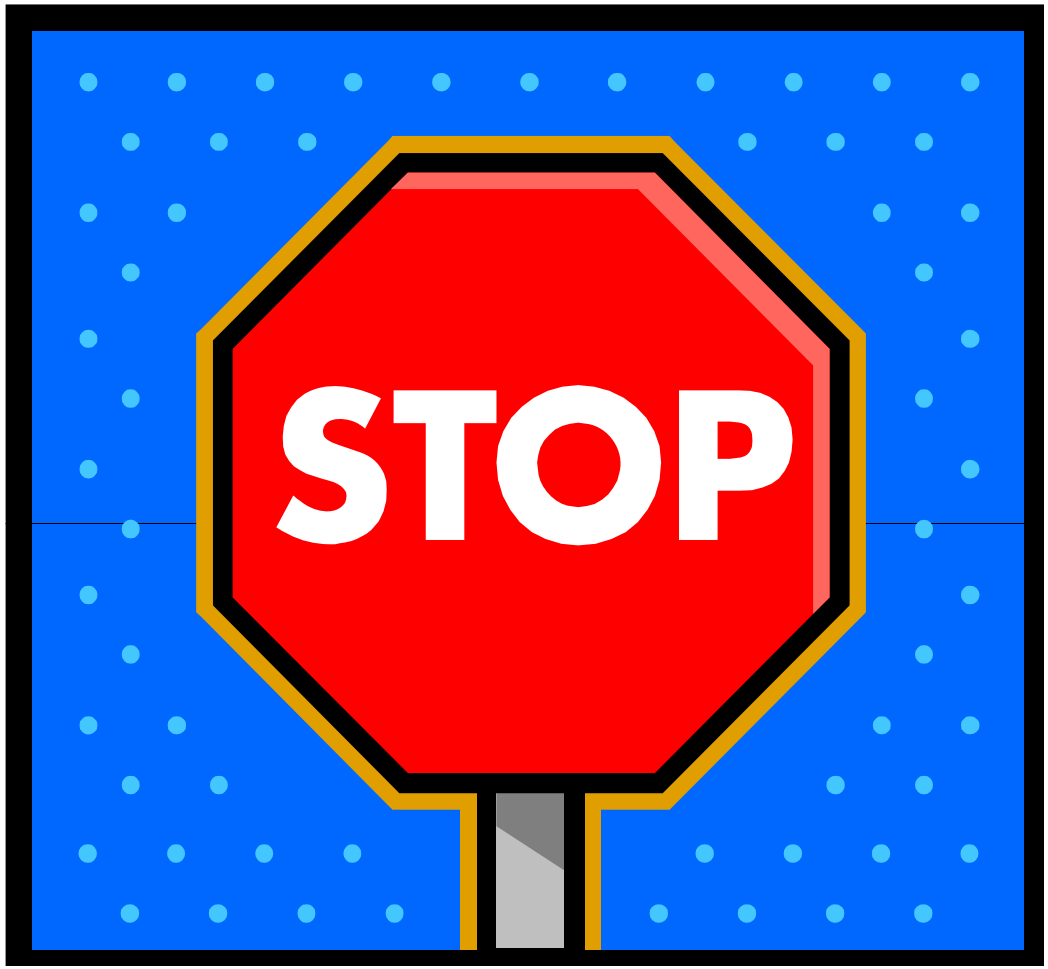
5 seconds

A. 50 miles

B. 100 miles

C. 250 miles

D. 275 miles



Pencils up, please.

The scale of a map is 1 inch = 50 miles. If the distance between two cities is 5 ½ inches, what is the actual mileage?

5.5(50) = 275

D. 275 miles

Liesel read 4 books over Spring Break. The first book had 98 pages, the second had 102 pages, the third had 54 pages, and the fourth had *x* pages. The mean of the pages was 90. Find *x*.

(Hint: The mean of a set of items is determined by finding their sum, then dividing by the numbers of items.)

A. 106 pages

B. 90 pages

C. 85 pages

D. 64 pages

 45 second timer has started

Liesel read 4 books over Spring Break. The first book had 98 pages, the second had 102 pages, the third had 54 pages, and the fourth had *x* pages. The mean of the pages was 90. Find *x*.

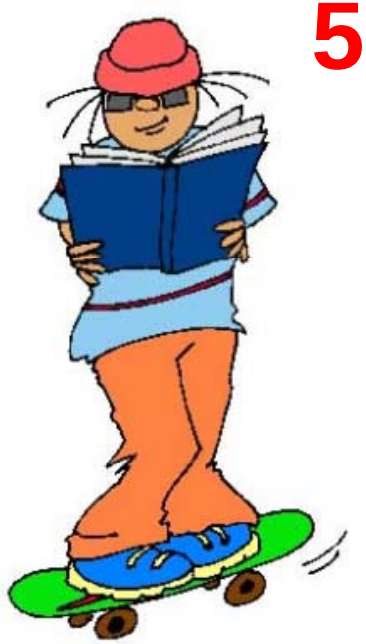
(Hint: The mean of a set of items is determined by finding their sum, then dividing by the numbers of items.)

A. 106 pages

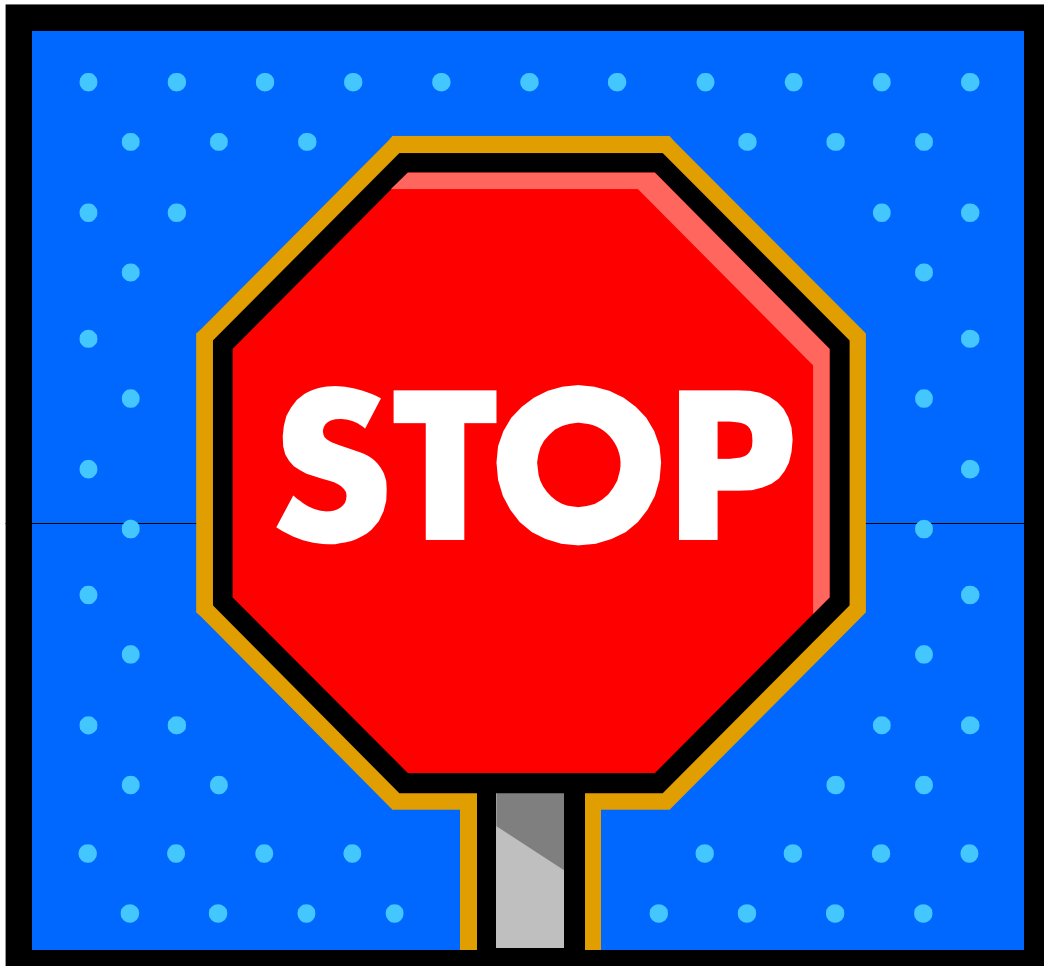
B. 90 pages

C. 85 pages

D. 64 pages



5 seconds

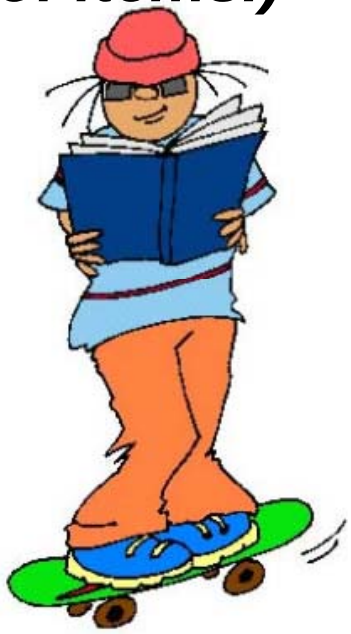


Pencils up, please.

2009 MATH Invitational Round 4 Number 4

Liesel read 4 books over Spring Break. The first book had 98 pages, the second had 102 pages, the third had 54 pages, and the fourth had *x* pages. The mean number of pages was 90. Find *x*.

(Hint: The mean of a set of items is determined by finding their sum, then dividing by the numbers of items.)



A. 106 pages

90 * 4 = 98 + 102 + 54 + x

360 = x + 254

Substitutions may be made at this time

Bob needs four pieces of wire each 218 inches long. Wire at the hardware store is sold only by the foot. How many feet of wire does Bob need?

A. 70 ft.

B. 72 ft.

C. 73 ft.

D. 75 ft.

2009 MATH Invitational Round 4 Number 5 **30 second timer has started**

Bob needs four pieces of wire each 218 inches long. Wire at the hardware store is sold only by the foot. How many feet of wire does Bob need?

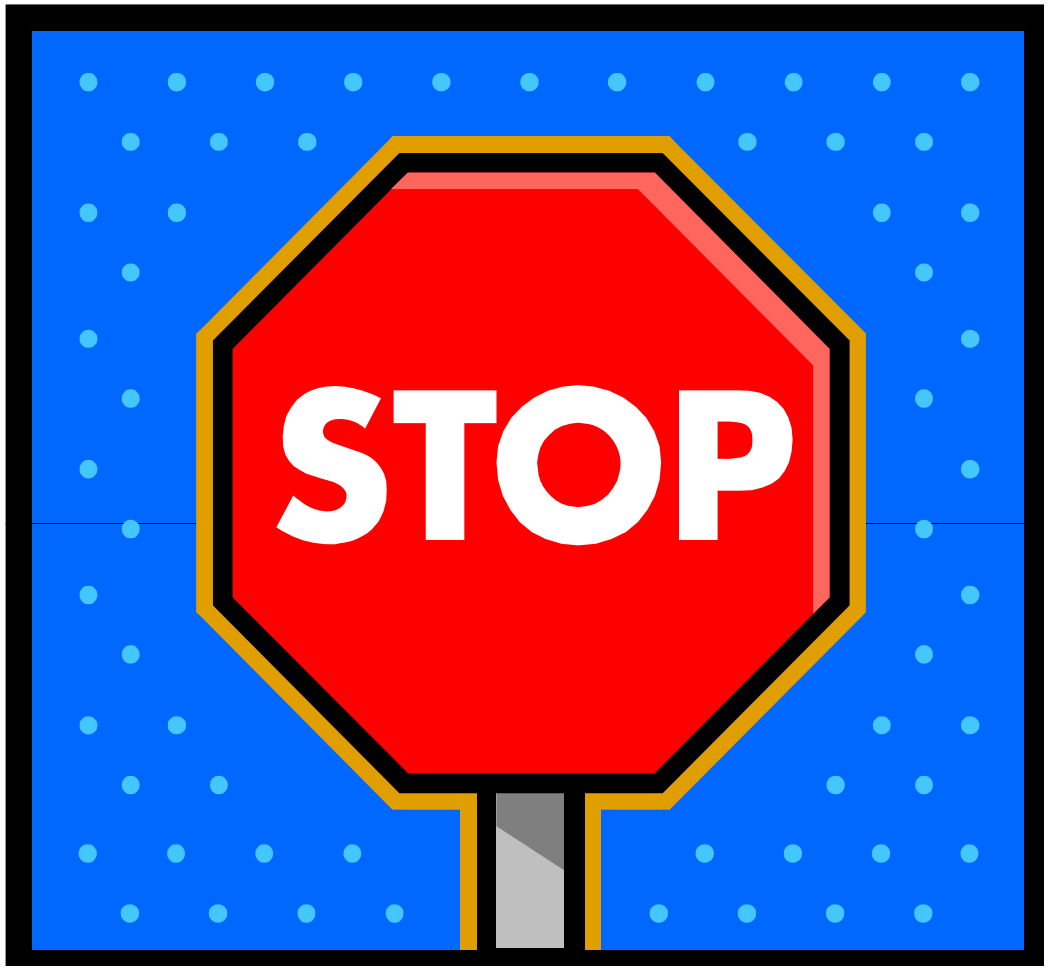
A. 70 ft.

B. 72 ft.

C. 73 ft.

D. 75 ft.

5 seconds



Pencils up, please.

2009 MATH Invitational Round 4 Number 5

Bob needs four pieces of wire each 218 inches long. Wire at the hardware store is sold only by the foot. How many feet of wire does Bob need?

C. 73 ft.

$(218 * 4) / 12 = 72\ ^{2}/_{3}$

Some veterinarians find a dog's "dog age" by assigning 12 dog years for each of the dog's first two people years; after that, each human year adds 4 dog years. Using that information, what is the "dog age" of a terrier who has lived 13 human years?

A. 52 dog years

B. 64 dog years

C. 68 dog years

D. 156 dog years

2009 MATH Invitational Round 4 Number 6 **45 second timer has started**

Some veterinarians find a dog's "dog age" by assigning 12 dog years for each of the dog's first two people years; after that, each human year adds 4 dog years. Using that information, what is the "dog age" of a terrier who has lived 13 human years?

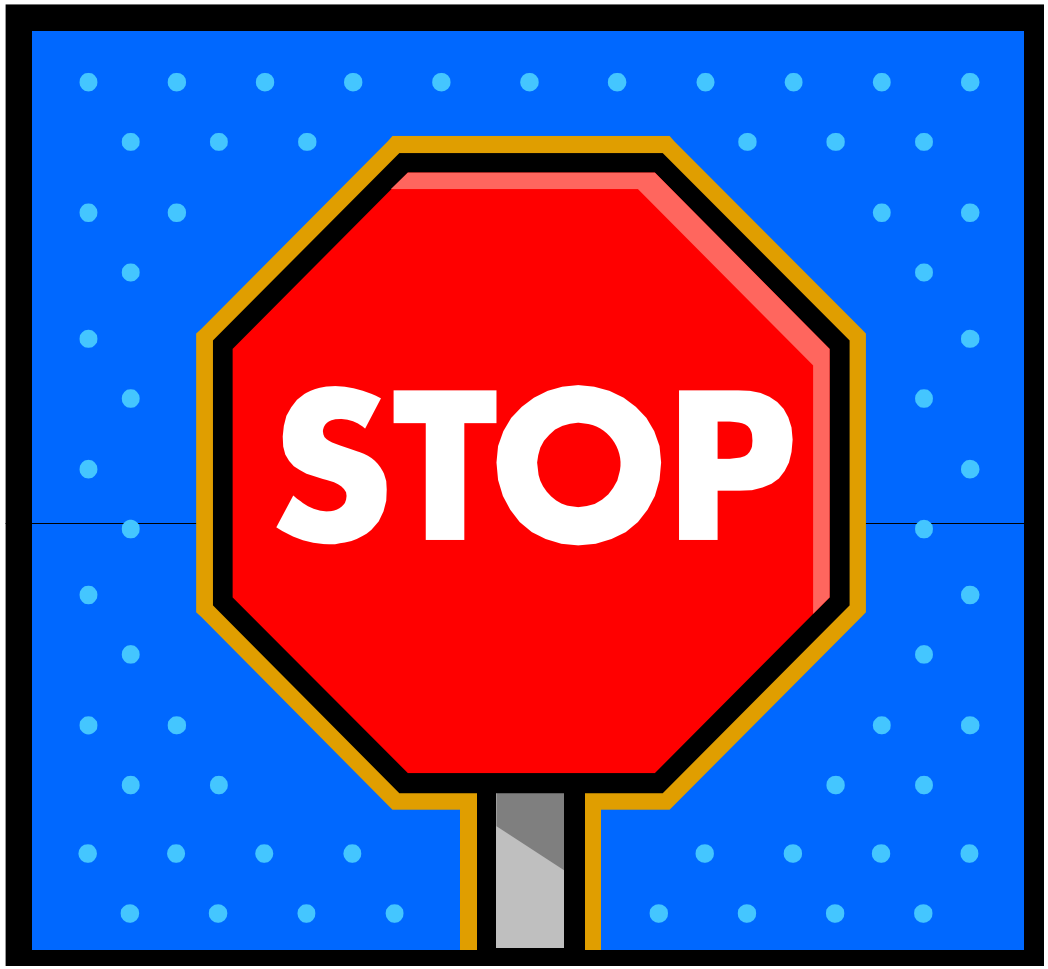
5 seconds

A. 52 dog years

B. 64 dog years

C. 68 dog years

D. 156 dog years



Pencils up, please.

2009 MATH Invitational Round 4 Number 6

Some veterinarians find a dog's "dog age" by assigning 12 dog years for each of the dog's first two people years; after that, each human year adds 4 dog years. Using that information, what is the "dog age" of a terrier who has lived 13 human years?

C. 68 dog years

12*2 + (13-2)*4 = 68

Susan and friends bought 5 hamburgers, 2 hotdogs, 3 salads, 7 fries, and 7 drinks. If the sales tax is 5%, plus they then leave a 15% tip on the amount before tax, what is the total cost?

A. $40

B. $42

C. $46

D. $48

Menu:

Hamburgers	$2.50
Hotdogs	$1.75
French Fries	$1.65
Chili	$1.25
Salad	$1.00
All Drinks	$1.35

2009 MATH Invitational Round 4 Number 7 **60 second timer has started**

Susan and friends bought 5 hamburgers, 2 hotdogs, 3 salads, 7 fries, and 7 drinks. If the sales tax is 5%, plus they then leave a 15% tip on the amount before tax, what is the total cost?

A. $40

B. $42

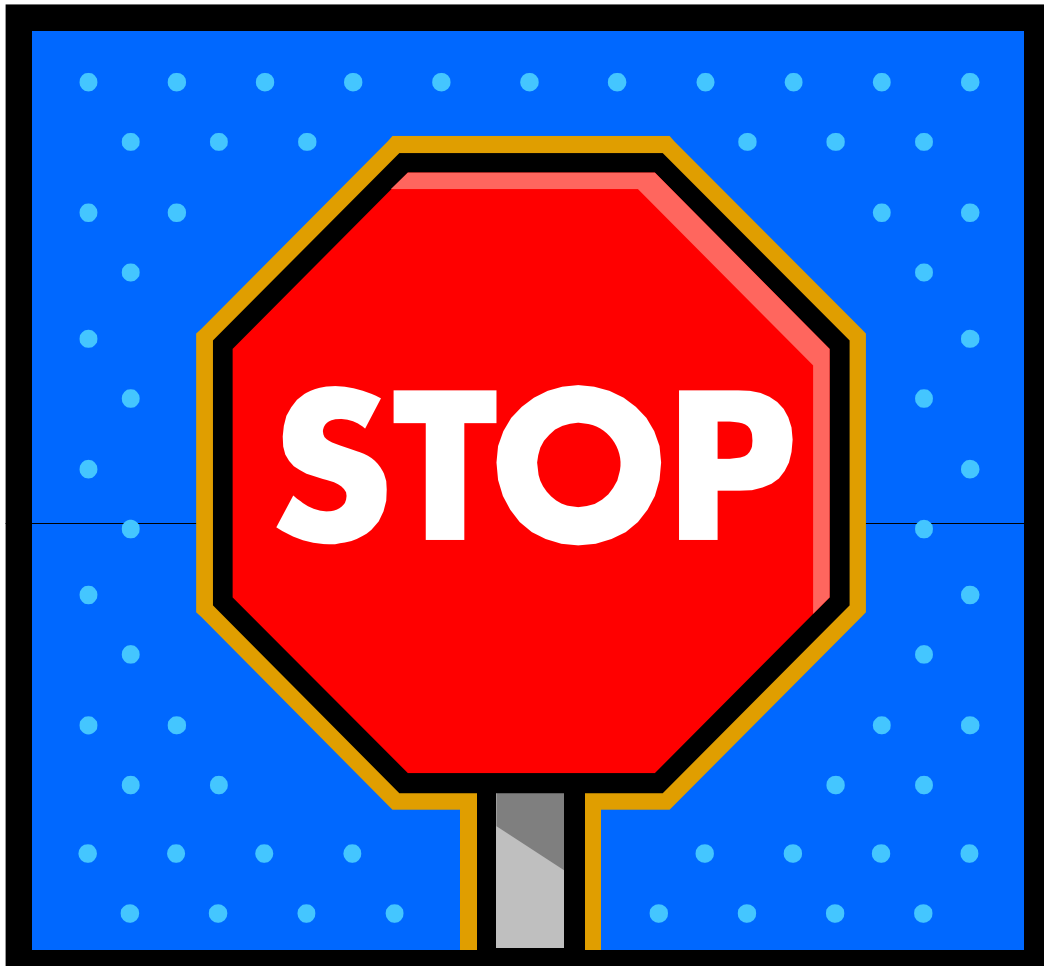
C. $46

D. $48

5 seconds

Menu:

Hamburgers	$2.50
Hotdogs	$1.75
French Fries	$1.65
Chili	$1.25
Salad	$1.00
All Drinks	$1.35



Pencils up, please.

Susan and friends bought 5 hamburgers, 2 hotdogs, 3 salads, 7 fries, and 7 drinks. If the sales tax is 5%, plus they then leave a 15% tip on the amount before tax, what is the total cost?

2.50(5) + 1.75(3) + 3 + 7(1.35 + 1.65) = $40
Tax is 0.05(40) = $2.00
15% tip is 3 times tax = $6.00
Total is $48.00

D. $48

Menu:

Hamburgers	$2.50
Hotdogs	$1.75
French Fries	$1.65
Chili	$1.25
Salad	$1.00
All Drinks	$1.35

End
Round
Four

Begin Alternate Round

Round 67.8891 to the nearest hundredth.

A. 67.88

B. 67.889

C. 67.89

D. 67.9

 30 second timer has started

Round 67.8891 to the nearest hundredth.

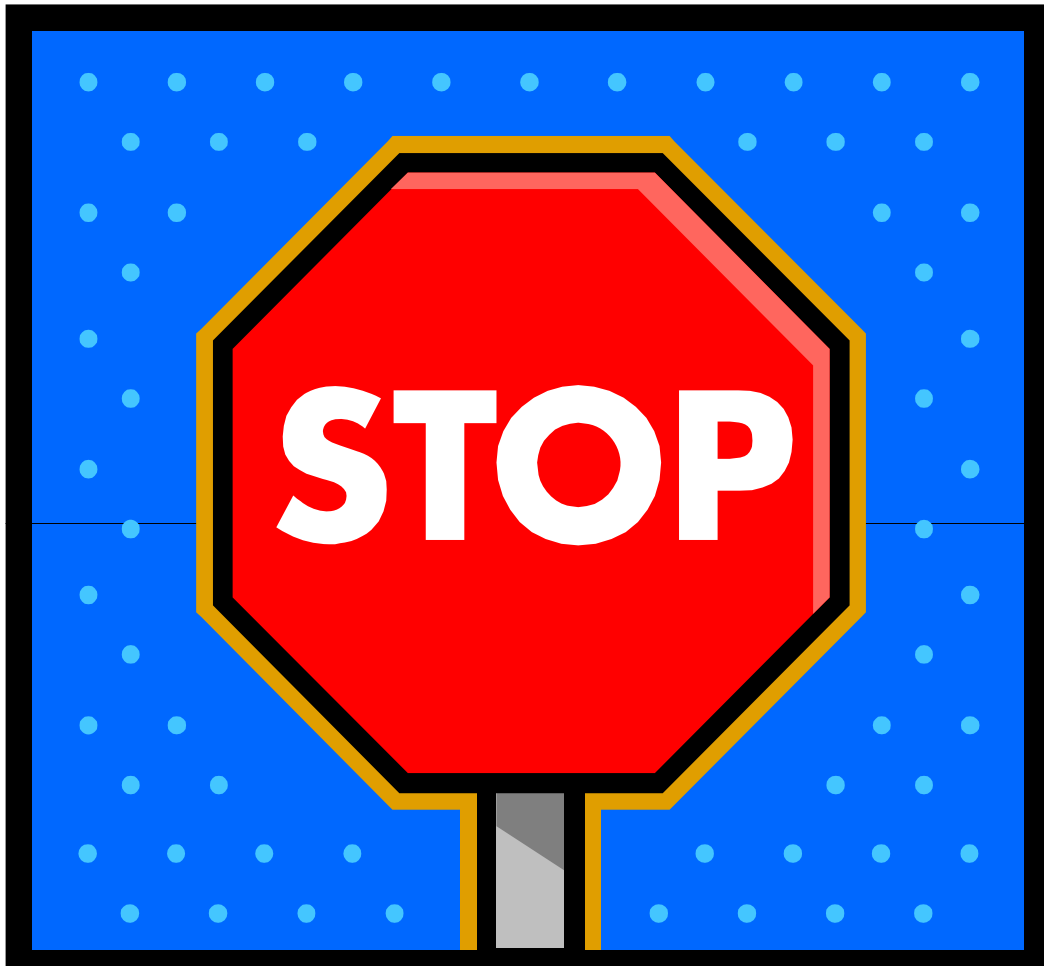
5 seconds

A. 67.88

B. 67.889

C. 67.89

D. 67.9



Pencils up, please.

Round 67.8891 to the nearest hundredth.

C. 67.89

Find the missing number:

$$\frac{x}{17} = \frac{1}{2}$$

A. 8.5

B. 1.7

C. 17

D. 34

2009 MATH Invitational Alt Round Number 2 **30 second timer has started**

Find the missing number:

$$\frac{x}{17} = \frac{1}{2}$$

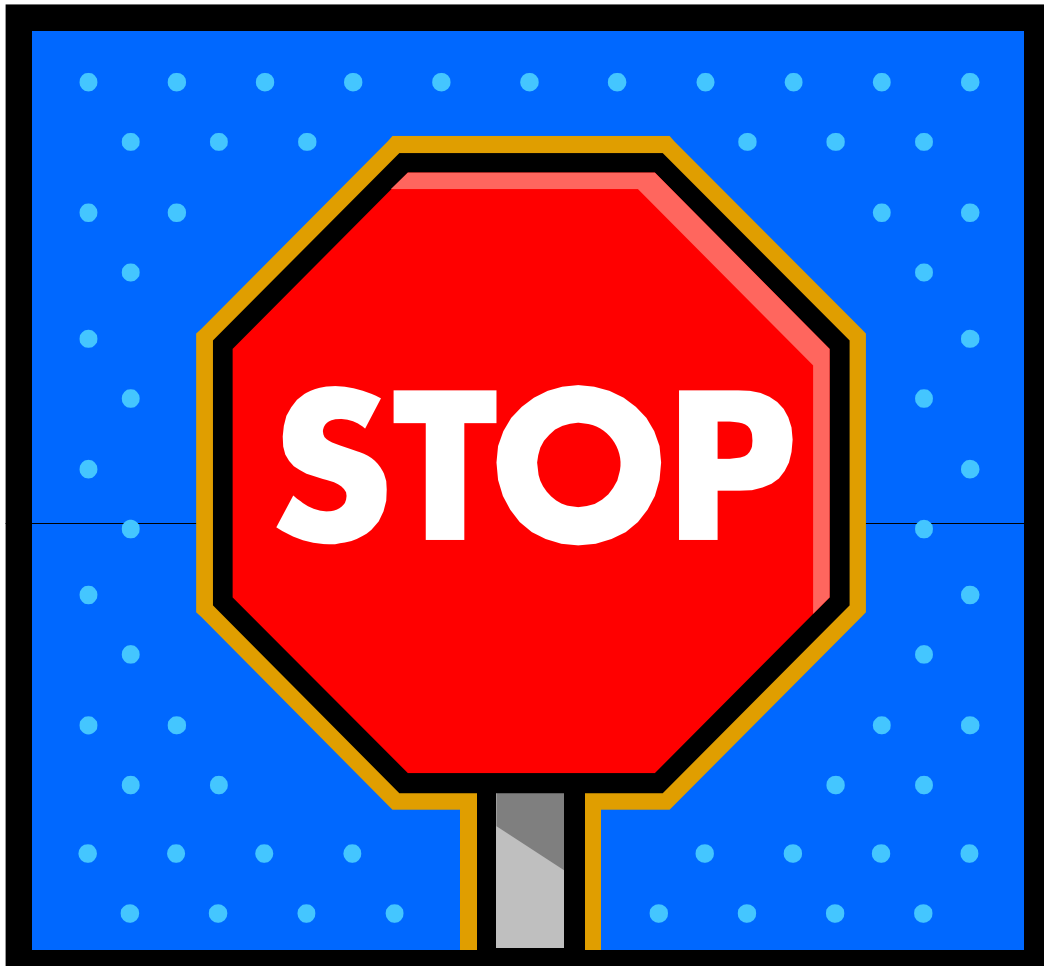
A. 8.5

B. 1.7

C. 17

D. 34

5 seconds



Pencils up, please.

Find the missing number:

$$\frac{x}{17} = \frac{1}{2}$$

A. 8.5

Use F + V = E + 2 to find the number of vertices (V) if edges (E) = 24 and faces (F) = 10.

A. 8

B. 12

C. 16

D. 32

 60 second timer has started

Use F + V = E + 2 to find the number of vertices (V) if edges (E) = 24 and faces (F) = 10.

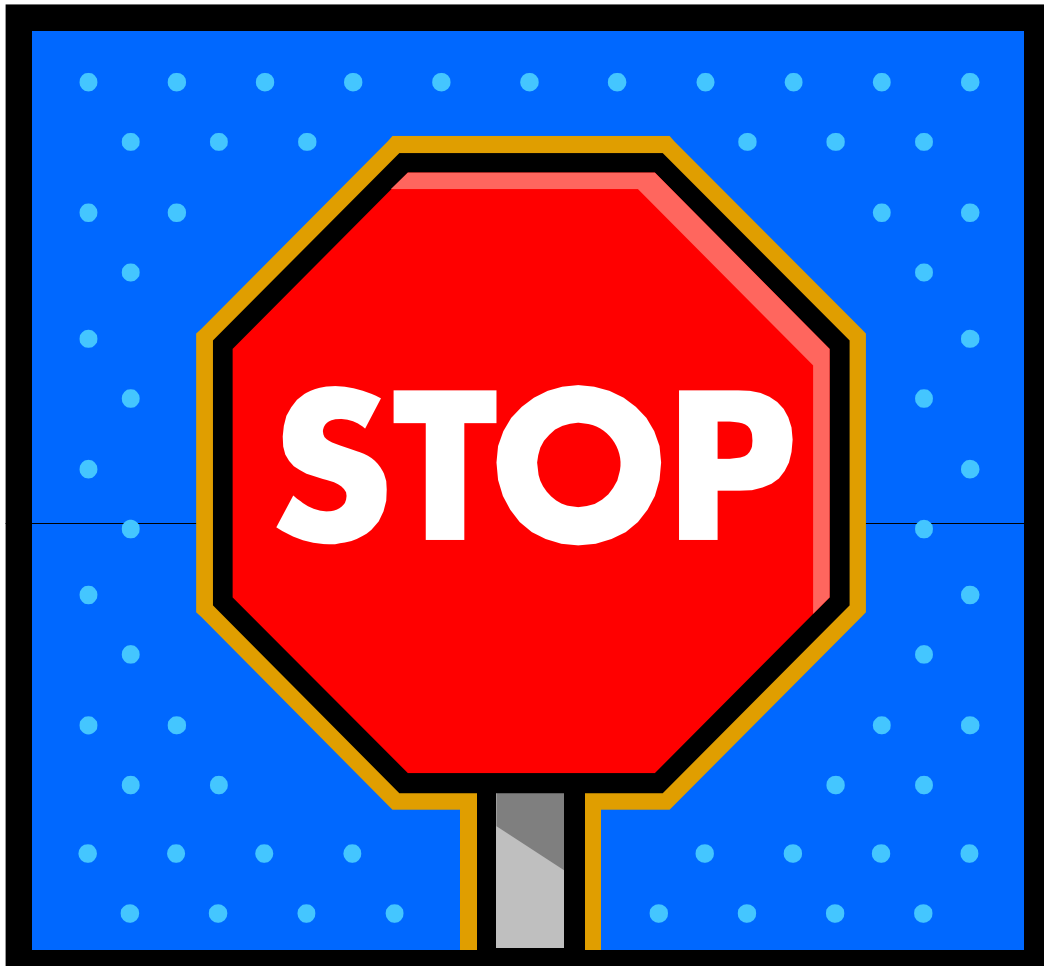
A. 8

B. 12

C. 16

D. 32

5 seconds



Pencils up, please.

Use F + V = E + 2 to find the number of vertices (V) if edges (E) = 24 and faces (F) = 10.

C. 16

10 + V = 24 + 2

Kiley left home at 6:00 A.M. Her flight leaves at 8:00 A.M. She has to be at a meeting at 10:00 A.M. Her flight lands at 9:26 A.M. How long was her flight?

A. 1 hour

B. 1 ½ hours

C. 1 hour 26 minutes

D. 4 hours

30 second timer has started

Kiley left home at 6:00 A.M. Her flight leaves at 8:00 A.M. She has to be at a meeting at 10:00 A.M. Her flight lands at 9:26 A.M. How long was her flight?

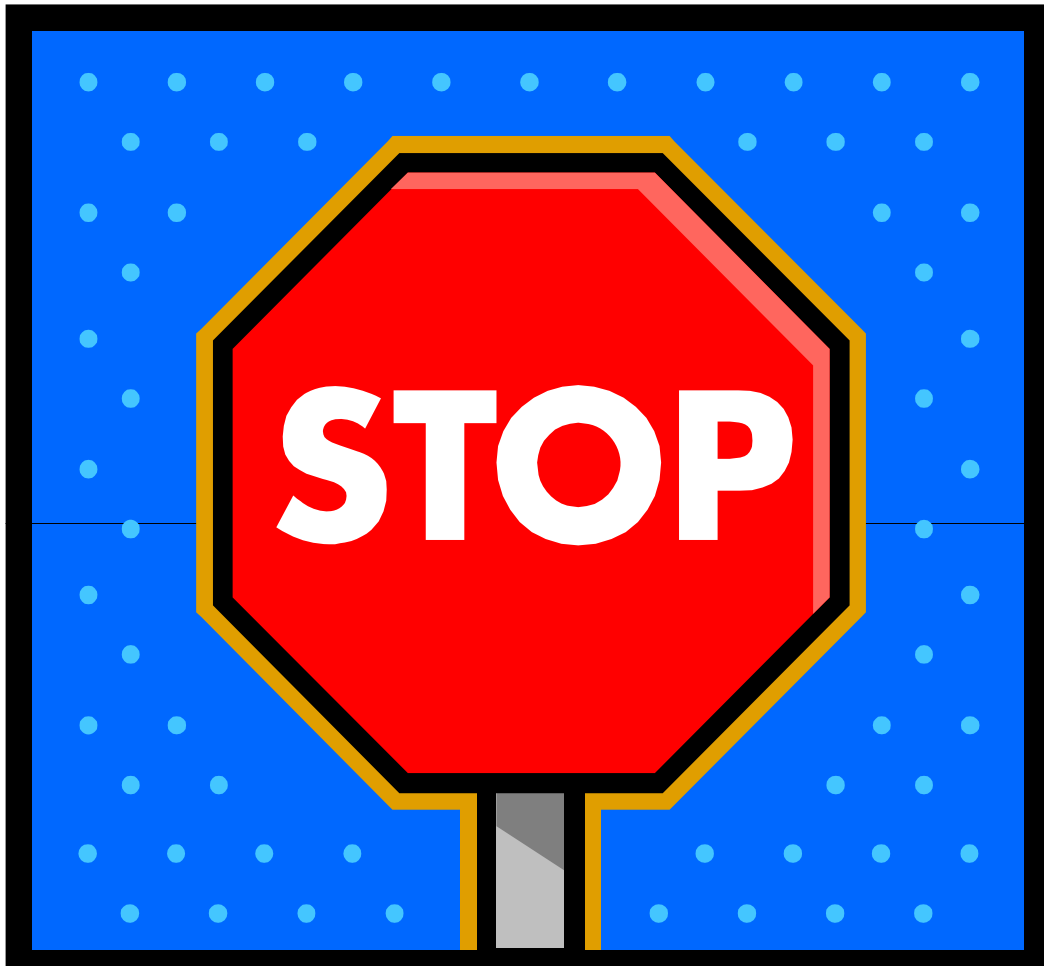
A. 1 hour

B. 1 ½ hours

C. 1 hour 26 minutes

D. 4 hours

5 seconds



Pencils up, please.

Kiley left home at 6:00 A.M. Her flight leaves at 8:00 A.M. She has to be at a meeting at 10:00 A.M. Her flight lands at 9:26 A.M. How long was her flight?

C. 1 hour 26 minutes

Maria is 10 years older than Jared. Next year, she will be twice as old as Jared. How old are Maria and Jared now?

A. Maria is 20 years old; Jared is 10 years old.

B. Maria is 19 years old; Jared is 9 years old.

C. Maria is 15 years old; Jared is 5 years old.

D. Maria is 10 years old; Jared is 20 years old.

 45 second timer has started

Maria is 10 years older than Jared. Next year, she will be twice as old as Jared. How old are Maria and Jared now?

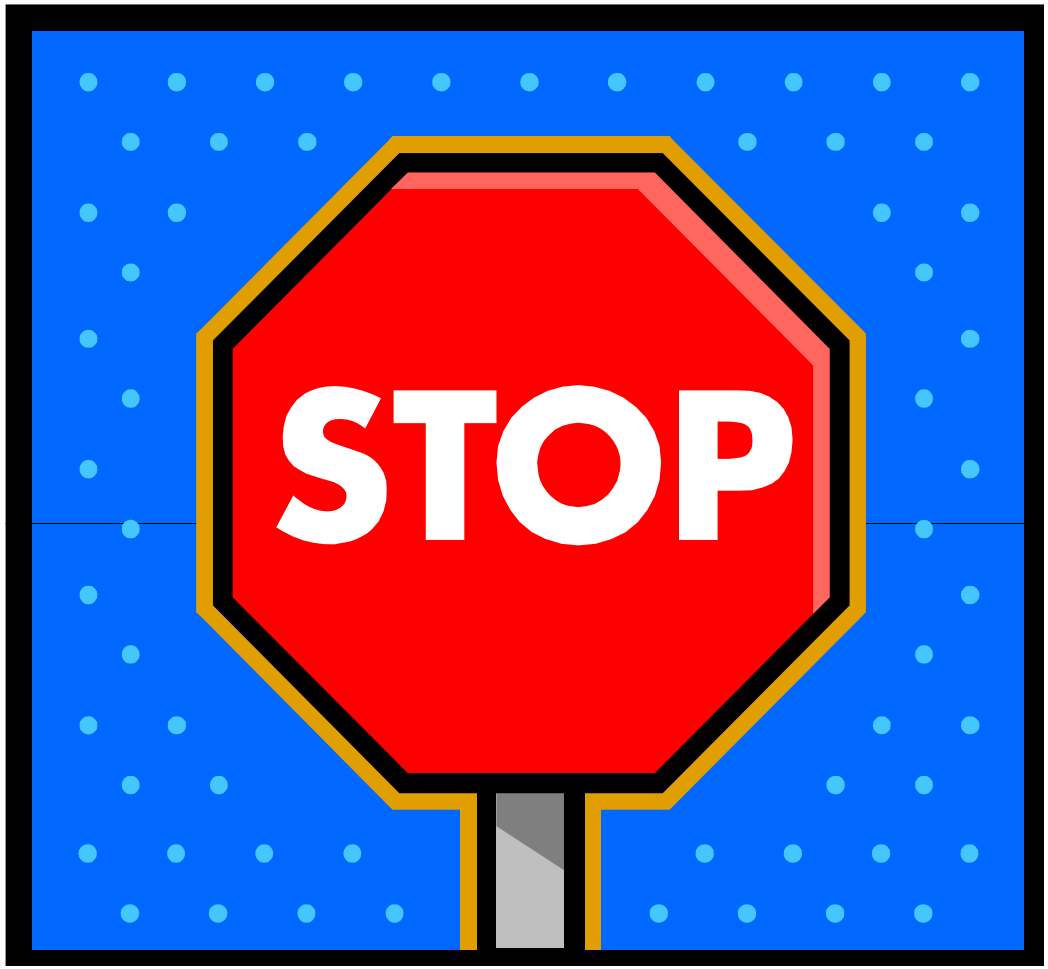
A. Maria is 20 years old; Jared is 10 years old.

B. Maria is 19 years old; Jared is 9 years old.

C. Maria is 15 years old; Jared is 5 years old.

D. Maria is 10 years old; Jared is 20 years old.

5 seconds



Pencils up, please.

Maria is 10 years older than Jared. Next year, she will be twice as old as Jared. How old are Maria and Jared now?

B. Maria is 19 years old; Jared is 9 years old.

Next year, Maria is 20 and Jared is 10.

Liquid hand soap is packaged by a company into four different size containers as shown in the chart. Which size costs the least per ounce?

A. 8 oz.

B. 30 oz.

C. 12 oz.

D. 32 oz.

Size	Cost
8 oz.	$0.89
12 oz.	$1.29
30 oz.	$3.14
32 oz.	$3.45

 45 second timer has started

Liquid hand soap is packaged by a company into four different size containers as shown in the chart. Which size costs the least per ounce?

A. 8 oz.

B. 30 oz.

C. 12 oz.

D. 32 oz.

Size	Cost
8 oz.	$0.89
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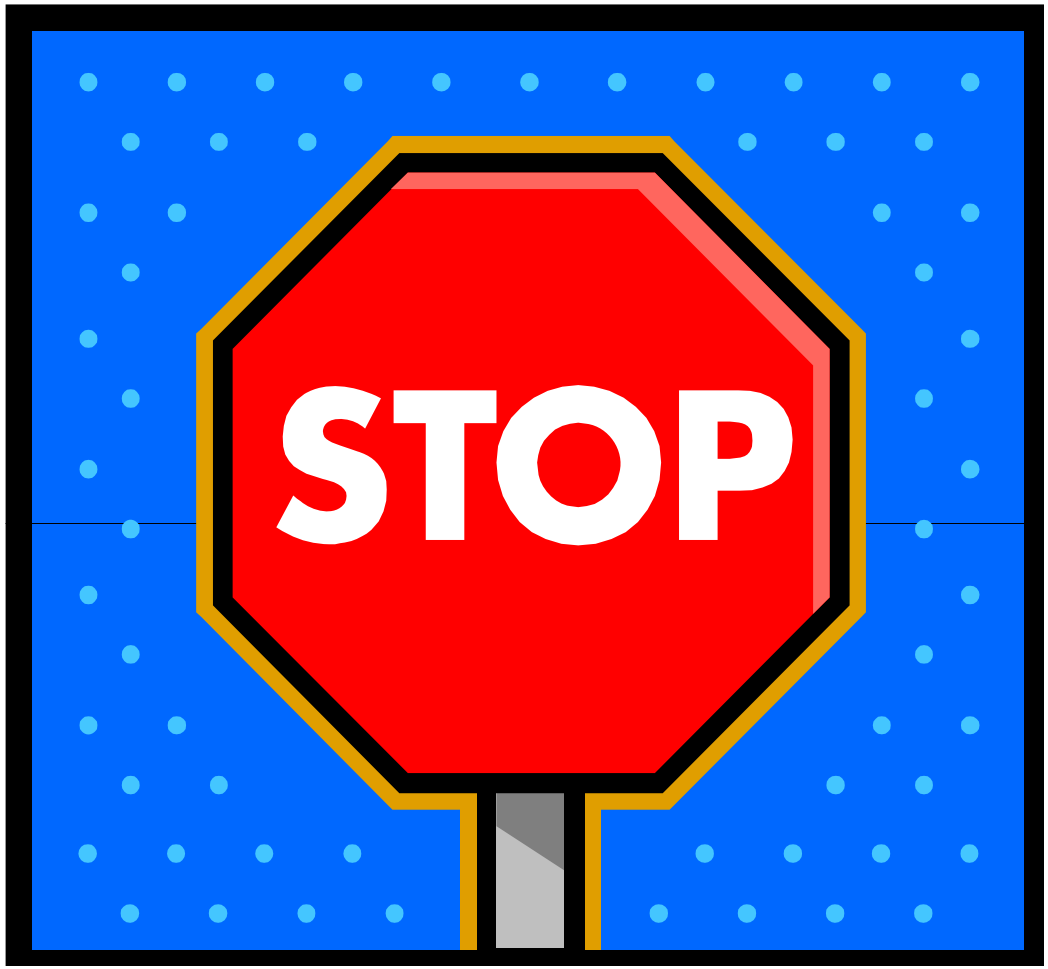
30 oz.	$3.14
32 oz.	$3.45

5 seconds



Pencils up, please.

Liquid hand soap is packaged by a company into four different size containers as shown in the chart. Which size costs the least per ounce?

Size	Cost	Cents/oz.
8 oz.	$0.89	11.125
12 oz.	$1.29	10.75
30 oz.	$3.14	10.466666
32 oz.	$3.45	10.78125

C. 30 oz.

Trista spent 1/3 of her allowance at the fair. She lent ¼ of what she had left to her friend. She was left with $13.50. How much was her allowance?

A. $20.00

B. $25.00

C. $27.00

D. $30.00

 60 second timer has started

Trista spent 1/3 of her allowance at the fair. She lent ¼ of what she had left to her friend. She was left with $13.50. How much was her allowance?

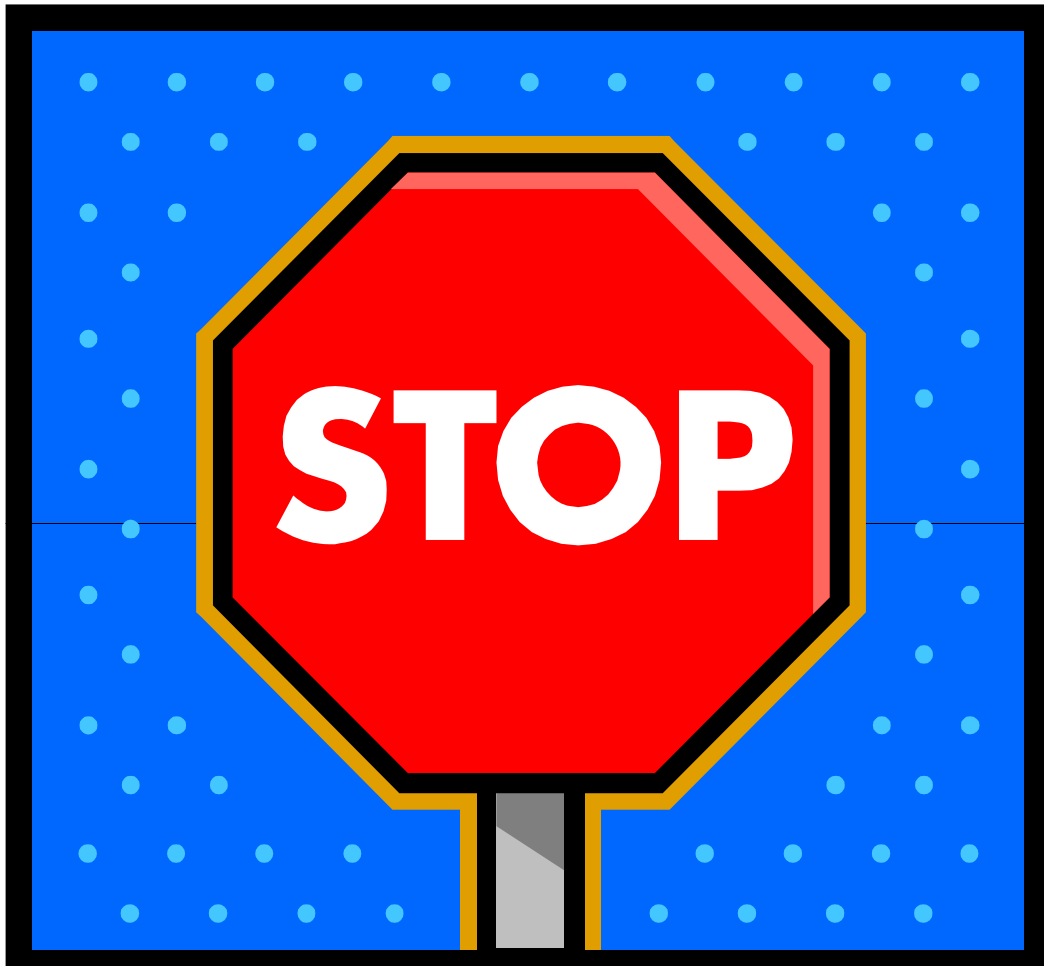
A. $20.00

B. $25.00

C. $27.00

D. $30.00

5 seconds



Pencils up, please.

Trista spent 1/3 of her allowance at the fair. She lent ¼ of what she had left to her friend. She was left with $13.50. How much was her allowance?

C. $27.00

Check each answer or solve

$a/3 + \frac{1}{4}(2a/3) + 13.50 = a$

End
Alternate
Round