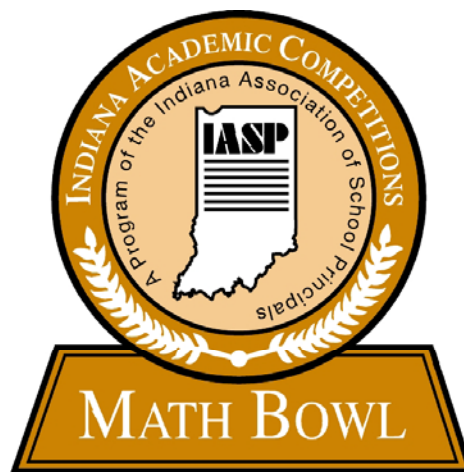


PURDUE
UNIVERSITY

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



March 7, 2006

Welcome

- Coaches, Proctors, Family, Guests
- Student Participants
- Staff
 - Emcee
 - Timer
 - 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.

**Begin
Practice
Round**

$$16 + 12 = ?$$

A. 18

B. 14

C. 4

D. 28

$$16 + 12 = ?$$

D. 28

Begin
Round
One

Round 1.474 to the nearest tenth.

- A. 1.4**
- B. 1.5**
- C. 1.47**
- D. 1.48**



Round 1.474 to the nearest tenth.

B. 1.5



If a field trip bus can hold 54 students, how many buses are needed for 325 students?

- A. 5 buses
- B. 6 buses
- C. 7 buses
- D. 8 buses



If a field trip bus can hold 54 students, how many buses are needed for 325 students?

C. 7 buses



Compute:

$$(72 \times 72) + (72/72) = \underline{\hspace{2cm}}$$

A. 73

B. 2

C. 5,256

D. 5,185



Compute:

$$(72 \times 72) + (72/72) = \underline{\hspace{2cm}}$$



D. 5,185

Three children slid down a water slide an average of 8 times each. If one child slid down the slide 10 times, the number of slides by the other two children could *not* have been:

A. 7, 7

B. 8, 8

C. 13, 1

D. 6, 8

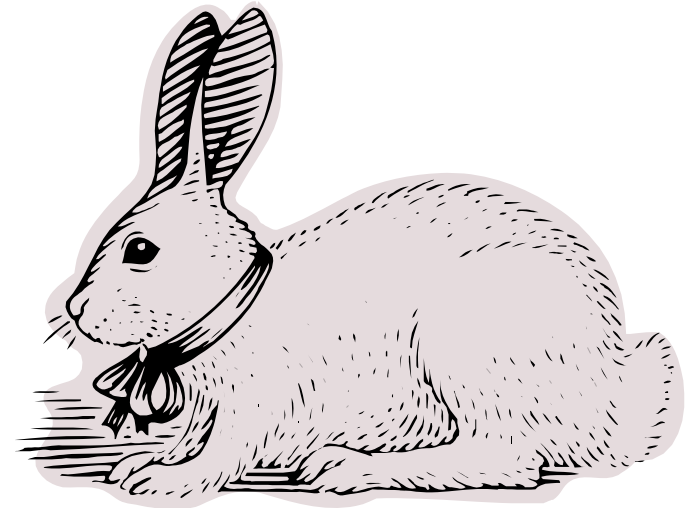
Three children slid down a water slide an average of 8 times each. If one child slid down the slide 10 times, the number of slides by the other two children could *not* have been:

B. 8, 8

Find the next 2 Fibonacci terms:

1, 1, 2, 3, 5, 8, 13, 21, 34

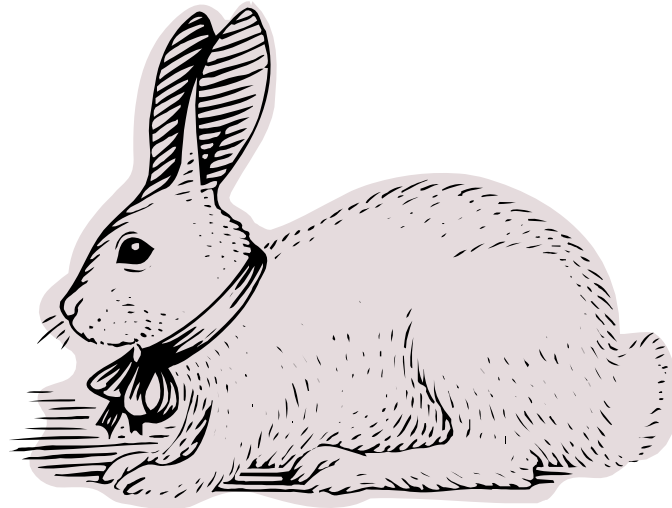
- A. 47, 68
- B. 55, 76
- C. 89, 144
- D. not given



Find the next 2 Fibonacci terms:

1, 1, 2, 3, 5, 8, 13, 21, 34

D. not given



The sum of the squares of the first 15 positive integers is 1,240. What is the sum of the squares of the first 14 positive integers?

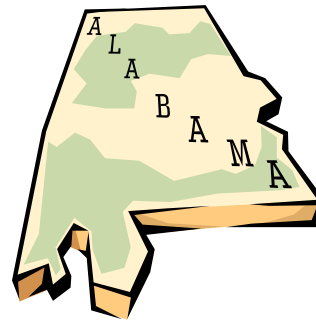
- A. 196**
- B. 1,015**
- C. 1,140**
- D. 1,239**

The sum of the squares of the first 15 positive integers is 1,240. What is the sum of the squares of the first 14 positive integers?

B. 1,015

In Indiana, sales tax is 6%; while in Alabama, sales tax is 4%. In a sale, an item with a regular price of \$92.50 is reduced by 40%. How much more sales tax will be collected on this sale item in Indiana than in Alabama?

- A. \$0.74
- B. \$1.11
- C. \$1.85
- D. \$11.10



In Indiana, sales tax is 6%; while in Alabama, sales tax is 4%. In a sale, an item with a regular price of \$92.50 is reduced by 40%. How much more sales tax will be collected on this sale item in Indiana than in Alabama?

B. \$1.11



Begin
Round
Two

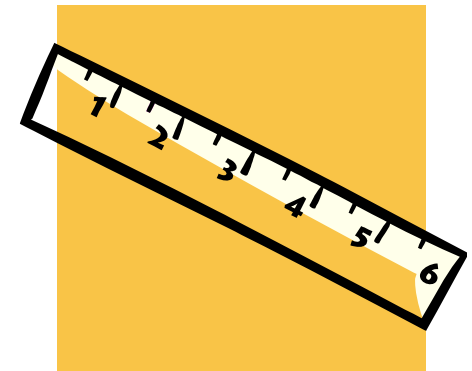
List these terms from least to greatest: $1\frac{1}{2}$, 1.503, 1.055

A. $1\frac{1}{2}$, 1.503, 1.055

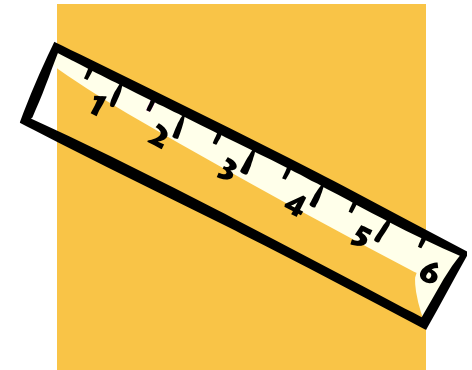
B. 1.503, 1.055, $1\frac{1}{2}$

C. 1.055, 1.503, $1\frac{1}{2}$

D. 1.055, $1\frac{1}{2}$, 1.503



List these terms from least to greatest: $1\frac{1}{2}$, 1.503, 1.055



D. 1.055, $1\frac{1}{2}$, 1.503

$$\mathbf{3/20 = \underline{\hspace{2cm}}\%}$$

A. 5

B. 10

C. 15

D. 20

$$3/20 = \underline{\hspace{2cm}}\%$$

C. 15

Write in symbols “Three less than the product of eight and negative nine.”

A. $3 < 8 \times -9$

B. $3 < (8 \times -9)$

C. $8 \times -9 - 3$

D. $3 - (8 \times -9)$

Reading Guide for Emcee

A. $3 < 8 \times -9$ Three less than symbol 8 times negative nine.

B. $3 < (8 \times -9)$ Three less than symbol open parentheses 8 times negative nine close parentheses

C. $8 \times -9 - 3$ Eight times negative nine minus three.

D. $3 - (8 \times -9)$ Three minus open parentheses times negative nine close parentheses.

Write in symbols “Three less than the product of eight and negative nine.”

C. $8 \times -9 - 3$

Which is NOT
 $8 + 8 + 8 + 8$?

A. $(8 + 8) + (8 + 8)$

B. 8^4

C. $(2 \times 8) + (2 \times 8)$

D. $2 \times (8 + 8)$

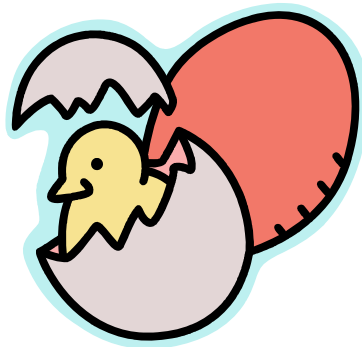
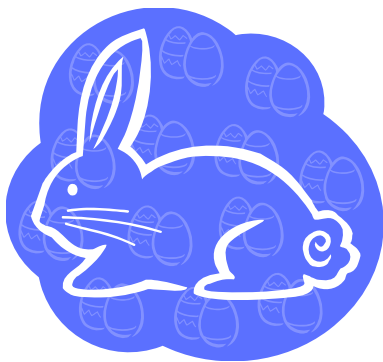
Which is NOT
 $8 + 8 + 8 + 8$?

B. 8^4

Rick has 7 packages with 20 total treats. If Blue Bunnies have 5 per package, Candy Chicks have 2 per package, and Purple Eggs have 1 per package, how many packages of each does he have?

- A. 2 Bunnies, 3 Chicks, and 2 Eggs
- B. 10 Bunnies, 6 Chicks, and 2 Eggs
- C. 2 Bunnies, 8 Chicks, and 2 Eggs
- D. 3 Bunnies, 1 Chick, and 3 Eggs

Rick has 7 packages with 20 total treats. If Blue Bunnies have 5 per package, Candy Chicks have 2 per package, and Purple Eggs have 1 per package, how many packages of each does he have?



D. 3 Bunnies, 1 Chick, and 3 Eggs

Seven rows are given. Find the numbers in row nine.

1
1 1
1 2 1
1 3 3 1
1 4 6 4 1
1 5 10 10 5 1
1 6 15 20 15 6 1

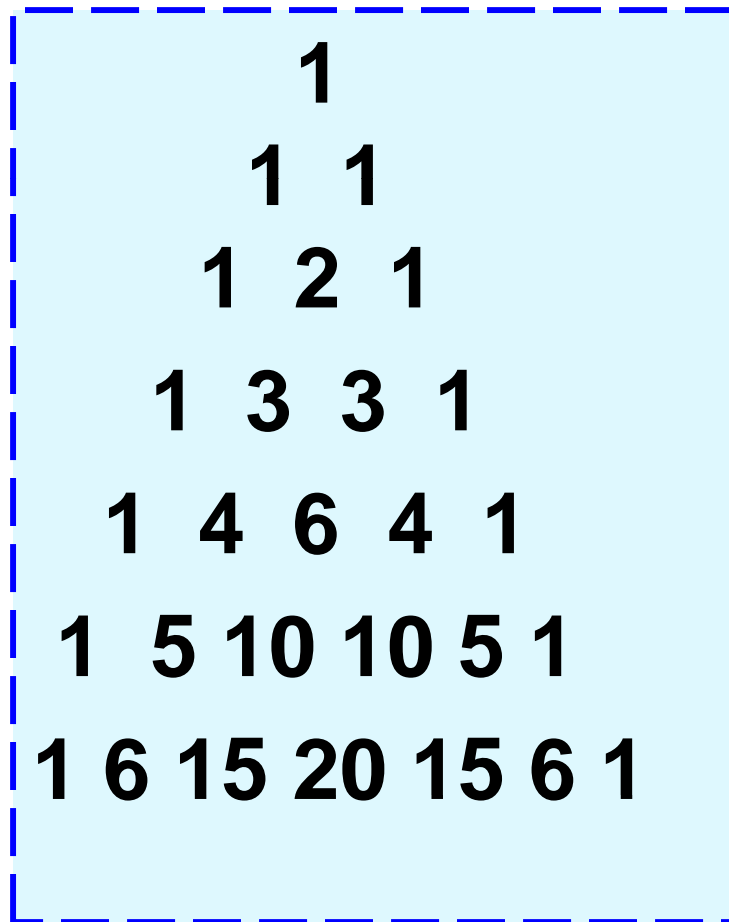
A. 1, 7, 21, 35, 35, 21, 7, 1

B. 1, 8, 28, 56, 70, 56, 28, 8, 1

C. 1, 21, 42, 56, 56, 21, 31, 1

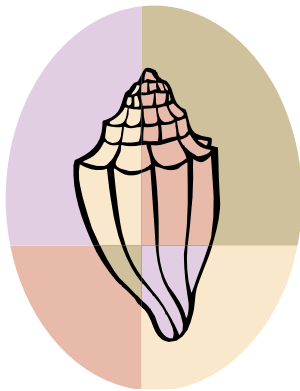
D. 1, 42, 56, 108, 108, 56, 42, 1

Seven rows are given. Find the numbers in row nine.

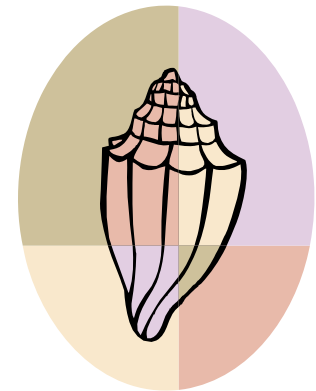


**B. 1, 8, 28, 56, 70, 56,
28, 8, 1**

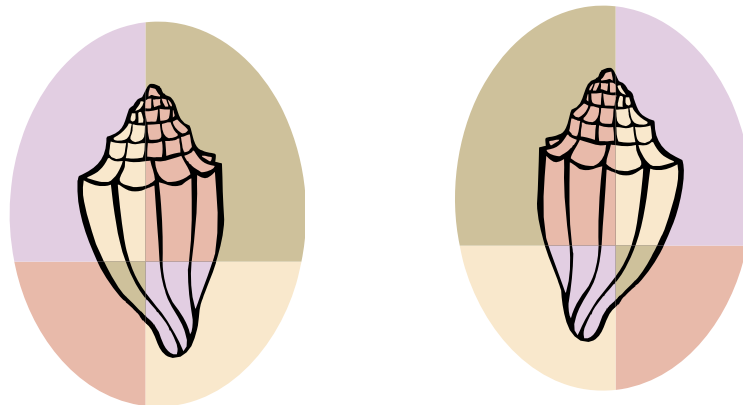
Sam has a collection of seashells. Sam told his friends that the sum of half of the number of his seashells, a fourth of the number, and a sixth of the number is 396. How many seashells does Sam have?



- A. 396 seashells**
- B. 400 seashells**
- C. 414 seashells**
- D. 432 seashells**



Sam has a collection of seashells. Sam told his friends that the sum of half of the number of his seashells, a fourth of the number, and a sixth of the number is 396. How many seashells does Sam have?



D. 432 seashells

Begin
Round
Three

Which is larger and why:
one and one-eighth or 1.2?

- A. $1\frac{1}{8}$ because it is 1.125.
- B. $1\frac{1}{8}$ because it is 1.25.
- C. $1\frac{1}{8}$ because it is 1.125 and $1.125 > 1.2$.
- D. 1.2 because $1\frac{1}{8}$ is 1.125 and $1.125 < 1.2$.

Which is larger and why:
one and one-eighth or 1.2?

D. 1.2 because $1\frac{1}{8}$ is 1.125 and
 $1.125 < 1.2$.

Find the missing output.

Input	Output
6	13
7	15
10	21
14	29
2	5
20	?

A. 38

B. 41

C. 45

D. 55

Find the missing output.

Input	Output
6	13
7	15
10	21
14	29
2	5
20	?

B. 41

There are 15 girls in a choir. The ratio of boys to girls is 2:3. How many total students are in the choir?

- A. 5 students C. 20 students**
B. 10 students D. 25 students

There are 15 girls in a choir. The ratio of boys to girls is 2:3. How many total students are in the choir?



D. 25 students

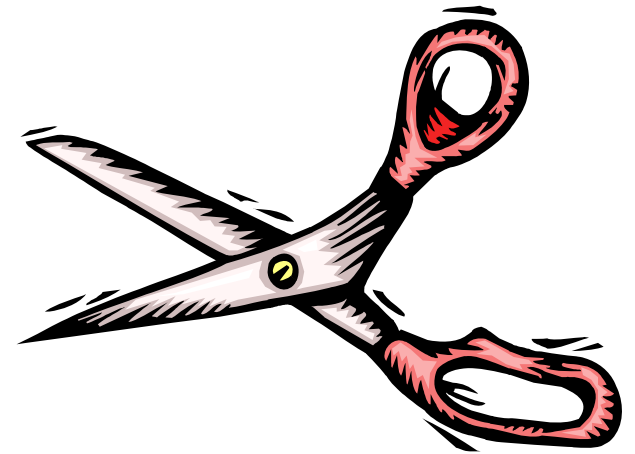
Scissors are stored in boxes that hold a dozen pairs each. Jack has more than enough scissors to fill 2 boxes, but not enough for 3. What is the fewest and greatest possible pairs that he could have?

A.12, 20

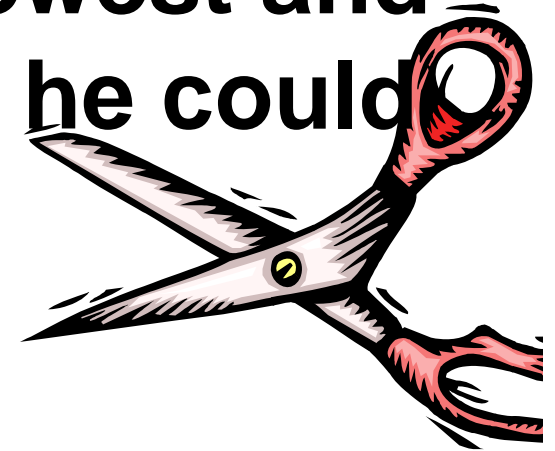
B.25, 35

C.30, 40

D.35, 45

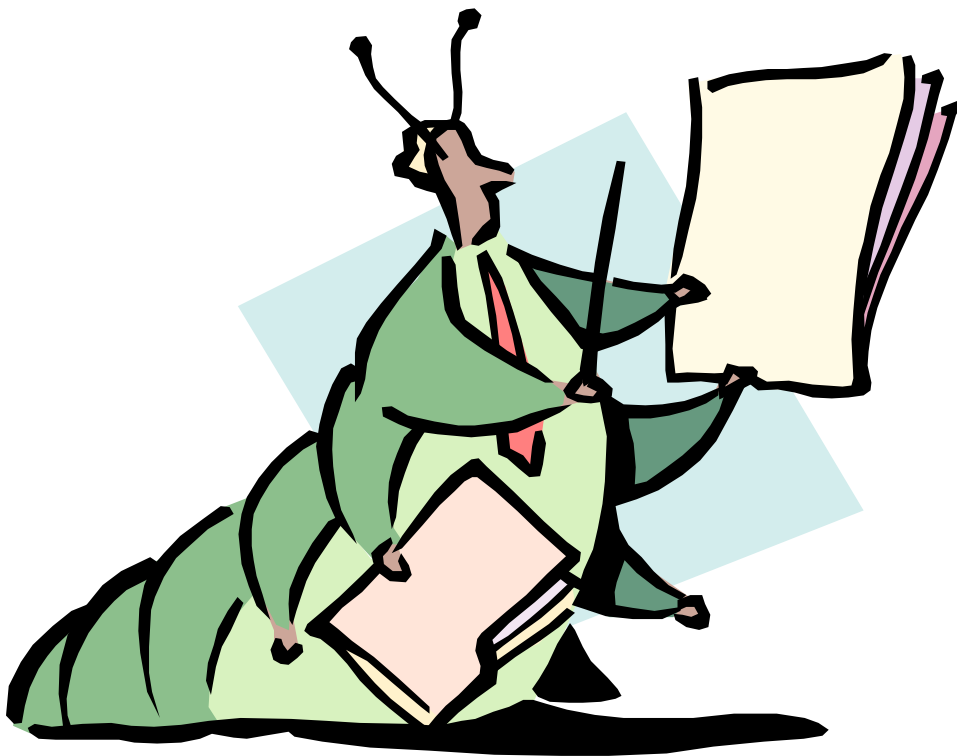


Scissors are stored in boxes that hold a dozen pairs each. Jack has more than enough scissors to fill 2 boxes, but not enough for 3. What is the fewest and greatest possible pairs that he could have?



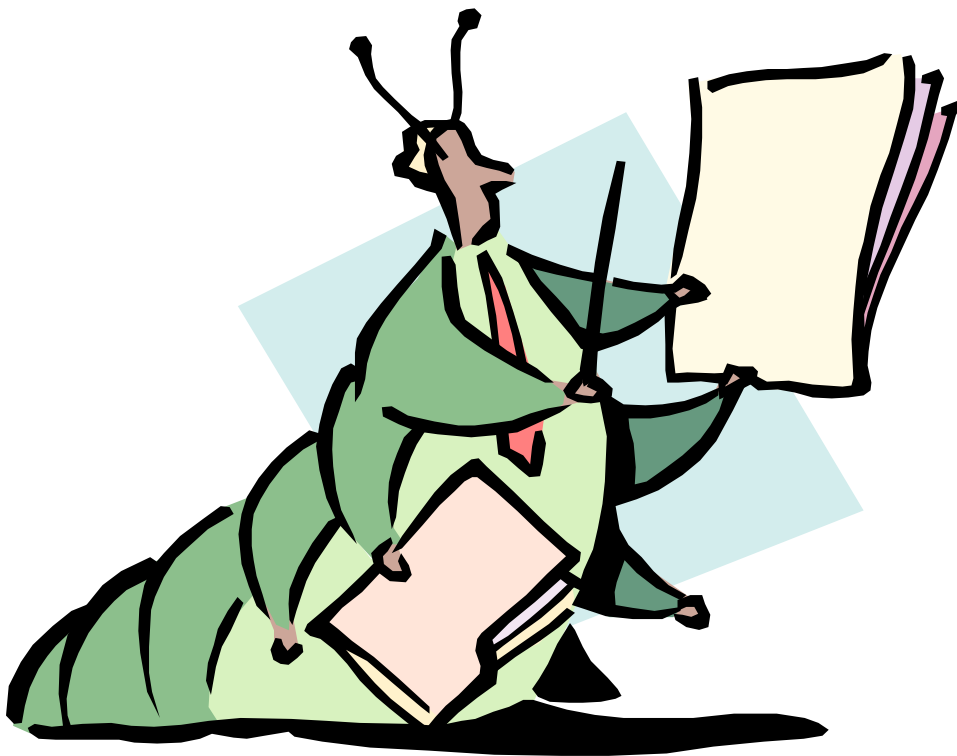
B. 25, 35

If a mischievous bookworm eats one book every 10 minutes, how many books will he eat in one day?



- A. 6 books
- B. 12 books
- C. 24 books
- D. 144 books

If a mischievous bookworm eats one book every 10 minutes, how many books will he eat in one day?



D. 144 books

Alice left on vacation at 7:04 a.m. and reached her destination $11\frac{1}{2}$ hours later. What time did she finish her trip?

- A. 8:34 a.m.**
- B. 8:04 p.m.**
- C. 6:04 a.m.**
- D. 6:34 p.m.**



**Alice left on vacation at 7:04 a.m.
and reached her destination $11\frac{1}{2}$
hours later. What time did she finish
her trip?**



D. 6:34 p.m.

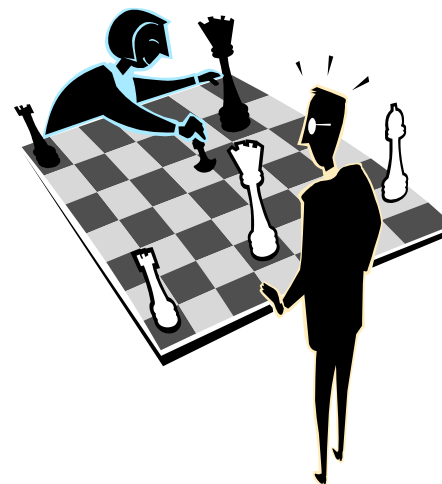
A 13 x 13 grid is “checkerboarded” with 13 rows of alternating black and white squares. If the corner square is black, what fraction of the squares are black?

A. $85/169$

B. $84/169$

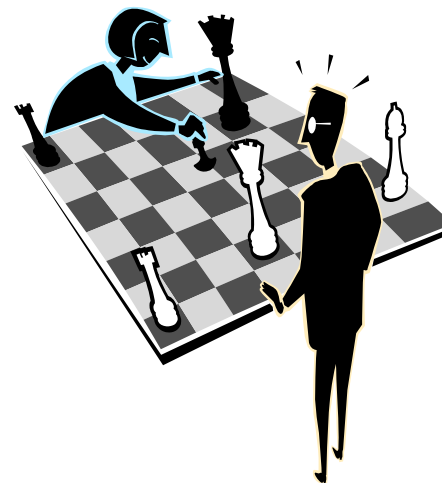
C. $1/2$

D. $2/3$



A 13 x 13 grid is “checkerboarded” with 13 rows of alternating black and white squares. If the corner square is black, what fraction of the squares are black?

A. $85/169$



Begin
Round
Four



Ms. Quad drives a bus for fourth graders. On Monday, she dropped off 24 students at **Orange School, 35 at **Red** School, and 27 at **Blue** School. On Tuesday, she dropped off the same number of students at the first two schools but nine fewer at the third. How many students did Ms. Quad drop off on Tuesday?**

A. 24 students

B. 27 students

C. 35 students

D. 77 students



Ms. Quad drives a bus for fourth graders. On Monday, she dropped off 24 students at **Orange School, 35 at **Red** School, and 27 at **Blue** School. On Tuesday, she dropped off the same number of students at the first two schools but nine fewer at the third. How many students did Ms. Quad drop off on Tuesday?**

D. 77 students

Find the missing number:
2, 3, 5, 7, 11, 13, _____, 19, 23,

A. 14

B. 15

C. 16

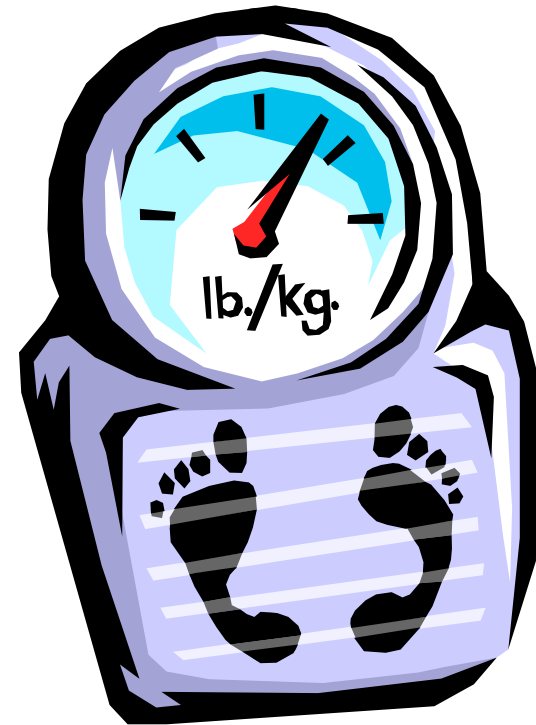
D. 17

Find the missing number:
2, 3, 5, 7, 11, 13, _____, 19, 23,

D. 17

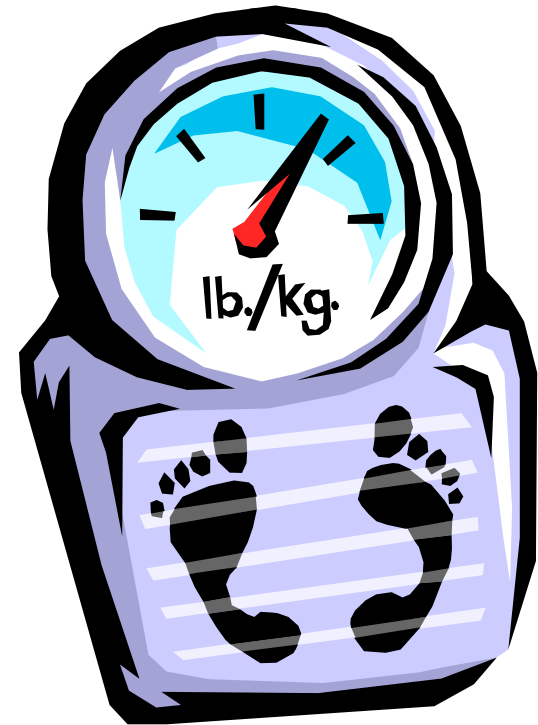
If there are 16 ounces in one pound, how many ounces are in $12\frac{1}{2}$ pounds?

- A. 192 ounces**
- B. 200 ounces**
- C. 292 ounces**
- D. 300 ounces**



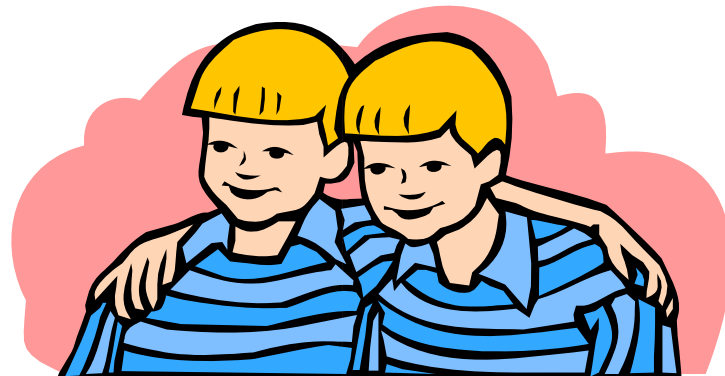
If there are 16 ounces in one pound, how many ounces are in $12\frac{1}{2}$ pounds?

B. 200 ounces



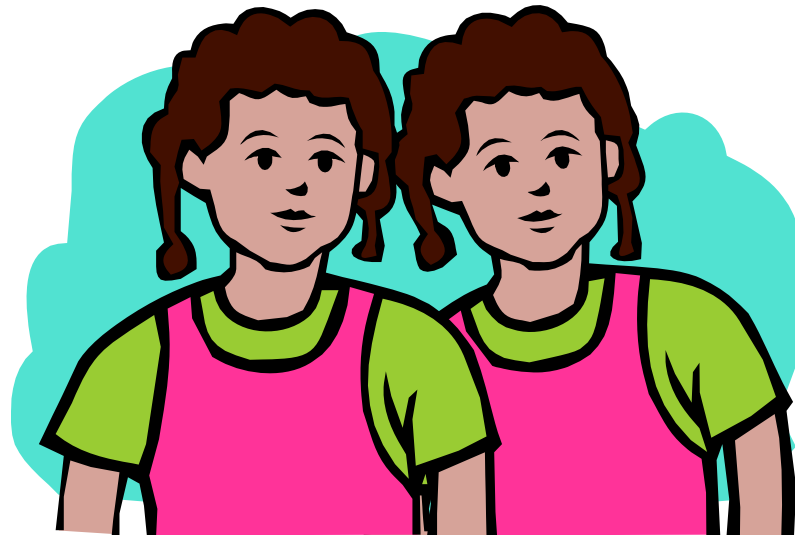
Eleven and 13 are twin primes.
Which of the following pairs are
also twin primes?

- A. 2 and 5
- B. 5 and 7
- C. 13 and 17
- D. 57 and 59



Eleven and 13 are twin primes.
Which of the following pairs are
also twin primes?

B. 5 and 7



There are 102 legs in a dog show ring that has an equal number of people and dogs. How many dogs are there?

- A. 17
- B. 20
- C. 34
- D. 51



There are 102 legs in a dog show ring that has an equal number of people and dogs. How many dogs are there?

A. 17



What are the next two terms in the pattern?

$1\frac{1}{2}$, 4, $2\frac{3}{4}$, $5\frac{1}{4}$, 4, _____, _____

A. $6\frac{1}{2}$, $5\frac{1}{4}$

B. $5\frac{1}{4}$, $6\frac{1}{2}$

C. $3\frac{1}{2}$, 6

D. $6\frac{1}{4}$, $5\frac{1}{2}$











**What are the next two terms in
the pattern?**

$1\frac{1}{2}$, 4, $2\frac{3}{4}$, $5\frac{1}{4}$, 4, _____, _____

A. $6\frac{1}{2}$, $5\frac{1}{4}$



If  +  = 18,
 +  = 12 and  +  = 8,
then  +  = ?









A. 4

B. 6

C. 14

D. 20

Symbols read as smiley, drop, flag, and lock

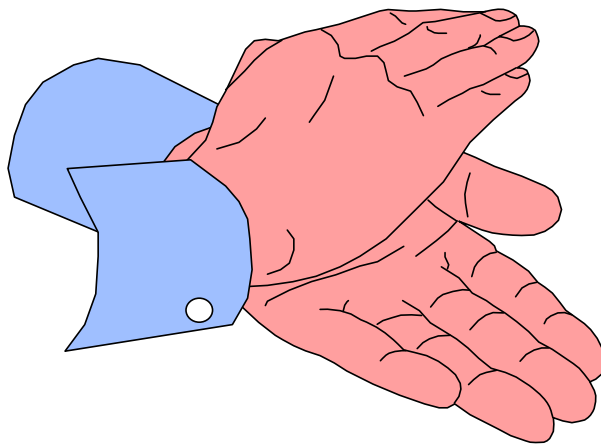
If  +  = 18,
 +  = 12 and  +  = 8,
then  +  = ?

C. 14

Symbols read as smiley, drop, flag, and lock

Thanks for your support of all our
mathletes.

We pause now for a short intermission to
allow the scorekeepers to tabulate final
results.





Statewide results of this competition
will be posted on

www.iasp.org

March 8, 2006 at noon

Begin
Round
Alternate

For the number 583,439, find the product of the ten-thousands, the hundreds, and the ones digits.

- A. 21**
- B. 108**
- C. 180**
- D. 288**

For the number 583,439, find the product of the ten-thousands, the hundreds, and the ones digits.

D. 288

Of the following, which have the largest least common multiple?



A. 5 and 7

B. 3 and 15

C. 6 and 8

D. 6 and 9

Of the following, which have the largest least common multiple?

A. 5 and 7



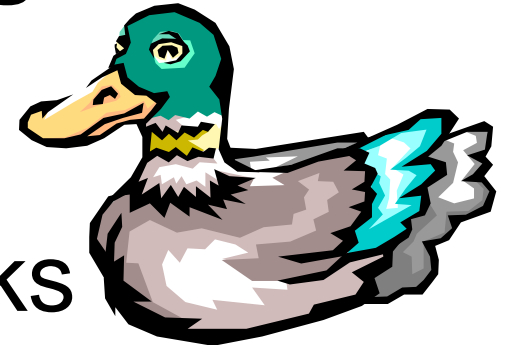
Cathy shipped some wooden ducks from Ducks, Inc. She shipped half of the ducks on Wednesday, 8 on Thursday and the last 3 on Friday. How many did she ship altogether?

A. 11 ducks

B. 22 ducks

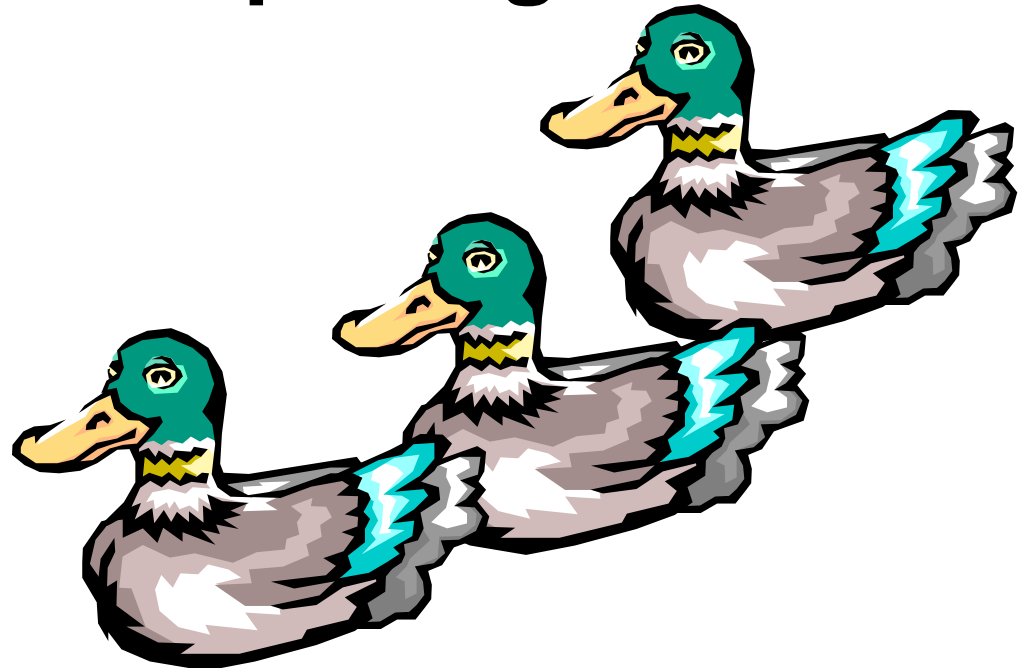
C. 19 ducks

D. 33 ducks



Cathy shipped some wooden ducks from Ducks, Inc. She shipped half of the ducks on Wednesday, 8 on Thursday and the last 3 on Friday. How many did she ship altogether?

B. 22 ducks



**Study the pattern in this sequence.
Identify the wrong term and its correct
replacement.**

**$1/2$, 0.5, $2/3$, 1.0, $3/4$, 1.5, $4/5$,
2.0, $5/4$, 2.5, $6/7$, 3.0...**

- A. $5/4$, $5/6$**
- B. $2/3$, $3/4$**
- C. 2.5, $6/4$**
- D. $6/7$, $2 \frac{3}{4}$**

**Study the pattern in this sequence.
Identify the wrong term and its correct
replacement.**

**$1/2$, 0.5, $2/3$, 1.0, $3/4$, 1.5, $4/5$,
2.0, $5/4$, 2.5, $6/7$, 3.0...**

A. $5/4$, $5/6$

Lance, Jeff, and Joe been have taking karate lessons for $1\frac{1}{3}$ years. They each agree to break at least one board for each month of their studies in karate. What is the least number of boards to be broken?

- A. 4
- B. 16
- C. 48
- D. 144



Lance, Jeff, and Joe been have taking karate lessons for $1\frac{1}{3}$ years. They each agree to break at least one board for each month of their studies in karate. What is the least number of boards to be broken?

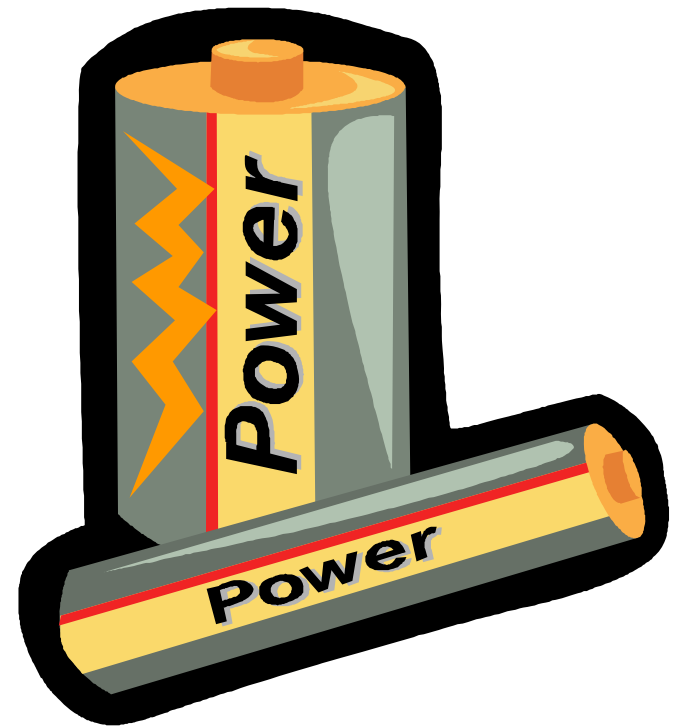
C. 48



**Find an equivalent
expression:**

$$2^3 + 2^3 + 2^3 + 2^3$$

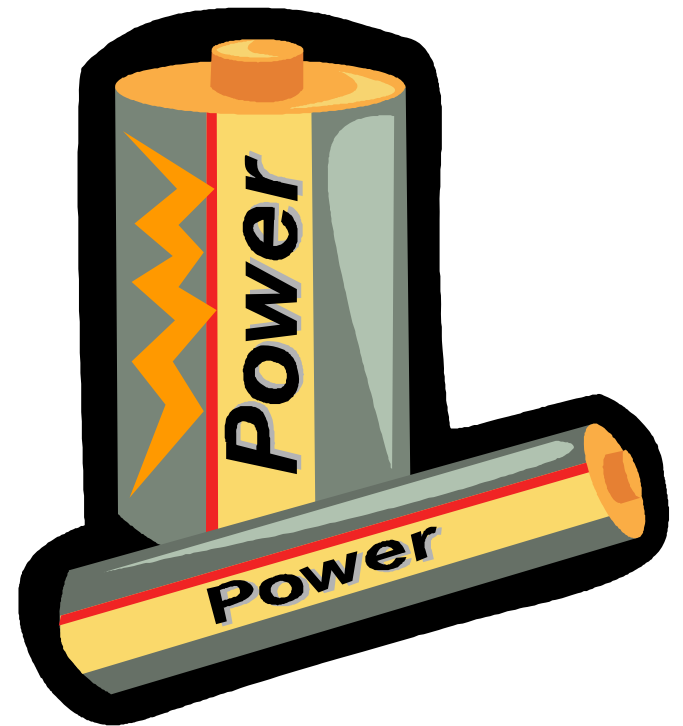
- A. 2^5**
- B. 8^3**
- C. 8^{12}**
- D. 12^2**



**Find an equivalent
expression:**

$$2^3 + 2^3 + 2^3 + 2^3$$

A. 2^5



Of 30 students, 12 play football, 17 play soccer, and 5 play both. How many play neither?



- A. 1 student
- B. 2 students
- C. 6 students
- D. 11 students



Of 30 students, 12 play football, 17 play soccer, and 5 play both. How many play neither?



C. 6 students

