CSI Pre-Algebra: Decimals

Detectives,

As you probably could have guessed, the evil genius terrorist group the Mathemagicians are at it again. The latest series of heists have brought a dark cloud over the Continent Down Under -- Oceania. The latest heists are by the hand of anonymous minion, Tenths Dontsaypoint. Investigators fear that the Mathemagicians are putting the finishing touches their world conquering device -- to conquer the world.

As has become their trademark, the Mathemagicians have scattered six mathematical puzzles and a cryptic text message that must be solved. After solving the puzzles, you can decode the message which will lead to Tenths's favorite number. So far there are six suspects that police have questioned. It is hoped that someone with a relatively strong number sense and geometry spatial sense can crack some codes that have puzzled the detectives on the case so far.

Your job is to bring Tenths Dontsaypoint to justice and save the planet. You need to be prepared to state your case and demonstrate your understanding of the following skills that Tenths is known to use in the notes.

- Operations with Decimals

- Solving equation with Decimals

- Using Equations with Decimals

- Place Value & Rounding

Be sure to include:

- Other examples of the concepts

- Definitions

- Any other relevant information.

This is not a time to be sloppy. The slightest miscalculation or illegible footnote could result in a not guilty verdict. Oh, did I mention that use of a calculator might prematurely set off his world conquering device? Good luck to you, gumshoe.

Chief Harris

Who is Tenths Dontsaypoint?

Name: Bella

Occupation: Political Scientist

Favorite Number: 4.0

Name: Christina

Occupation: Detective

Favorite Number: 0.5

Name: Cesar

Occupation: Architect

Favorite Number: 7.25

Name: Pat

Occupation: Seamstress

Favorite Number: 0.02

Name: Louis

Occupation: Dentist

Favorite Number: 3.14

Name: Jai

Occupation: Photographer

Favorite Number: 1.3333

Tenths Dontsaypoint is suspected to have been behind the theft of aboriginal boomerangs and spears from a local gift shop. The store owner later found this note.

G'Day it's Tenths Dontsaypoint here to reorient your place value and world view. Below is a trail marked with Aboriginal rock art. If you get all the way to Ayers Rock, you will have your first clue.

AYERS ROCK

$$\text{(goat)} = 1.2 + 3.4$$

$$\text{(bird)} = \text{(goat)} - 2.8$$

$$\text{(sun)} = \text{(bird)} \cdot 7.5$$

$$\text{(sun)} \div 2.5 = \text{(cat)}$$

$$13.25 = \text{(lizard)} + \text{(cat)}$$

$$40.5 = \text{(spiral)} + 2.2 \cdot \text{(feather)}$$

$$9.25 = \text{(feather)} - \text{(turtle)}$$

$$\text{(spiral)} = \underline{\quad\quad}$$

Scene #2   Tasmania Zoo -- Hobart, Tasmania

Zookeepers were astonished to find an entire family of wombats were wombat-napped. Investigators are unsure how the wombats will factor into the World Conquering Device at this time.

Tasmanian Devils are notorious for being hard to understand. No difference here.

~~Cross out~~ the numbers from the "Bank".

TASMANIAN DEVIL TRANSLATION CHALLENGE

1. THREE HUNDRED ONE AND TWENTY-FIVE HUNDREDTHS

2. THIRTY AND ONE HUNDRED THIRTEEN THOUSANDTHS

3. THIRTEEN AND SIXTY FIVE THOUSANDTHS

4. THREE AND THREE HUNDRED THREE TEN-THOUSANDTHS

Add the numbers in the bank that are leftover. This will be equal to a.

NUMBER BANK

3.0303	301.025	13.065
3.333	3.033	301.25
13.65	30.113	30.13

a = _____

During a Mining and Petroleum Conference, visitors were alarmed to find that their iPads were stolen.

After stealing those iPads, I dropped by an Oceania Middle School Math Competition. Teams representing different countries tried their hand at some problems. How many are right?

Fiji

```
   2 . 5
   5 . 3 1
 + 0 . 7 8
 ─────────
   8 . 5 9
```

Is it correct or is there a mistake?

New Zealand

```
   7 . 4 9
 - . 6 8 4
 ─────────
   6 . 6 5
```

Is it correct or is there a mistake?

Papua New Guinea

```
          2 . 3
 x        . 7 5
 ─────────────
        1 1 5
      1 6 1 x
 ─────────────
    1 7 . 2 5
```

Is it correct or is there a mistake?

Solomon Islands

```
     4 . 5 4
 x       1 . 6
 ─────────────
     2 7 2 4
   4 5 4 x
 ─────────────
   7 . 2 6 4
```

Is it correct or is there a mistake?

Samoa

```
   4 . 1 7 5
   9 . 2
 + 1 . 9 5
 ─────────────
 1 5 . 3 2 5
```

Is it correct or is there a mistake?

How many Math Teams answered their question correctly?

2 ➡	c = 2
3 ➡	i = 3
4 ➡	n = 4

_____ = _____

A guard heard a noise and discovered that the famed white birch plywood floor was ripped up.

I enjoyed a lot for the great Australian sites on my little vacation of thefts! I had to choose between these two tours. I picked the longer one!

AussieLand Tour Stops

River Torrens Linear Park in *Adelaide*

Lone Pine Koala Sanctuary in *Brisbane*

Sydney Opera House in *Sydney*

National Gallery of Australia in *Canberra*

Melbourne Cricket Ground in *Melbourne*

South Australia — Queensland — Brisbane

1583.67 km

689.68 km

Adelaide — Sydney — Canberra

665.43 km

435.67 km   293.52 km

Pacific Ocean

Indian Ocean

Victoria — Melbourne

0   500
Kilomètres

Which tour logs the most kilometers? By how many?

Camel Tour:	**E**chidna Tour:
Adelaide to Brisbane to Sydney	*Brisbane to Sydney to Canberra to Melbourne*

(which tour is longer? c/e)=(difference in km)   No Rounding!

_____=_____

Scene #5   Great Barrier Reef -- Queensland, Australia

Ecologists discovered a number of crown-of-thorns starfish were plucked from the sea. Seaweed was nailgunned to a rock in the shape of the following note.
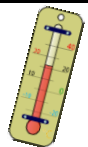
I, Tenths Dontsaypoint will go scuba diving provided <u>two conditions are met</u>…
1.) I must have enough money and 2.) The water must be at least 80º Fahrenheit.

$ USD → $ AUD

Scuba diving in the Reef will cost $120 Australian Dollars. I have $118 US Dollars in my pocket. Use the equation $y = 1.03x$ (where x is US Dollars) to convert the currency.

The water in the Great Barrier Reef has an average temperature of 26º Celsius. Use the equation $y = 1.8x + 32$ (where x is degrees Celsius) to convert the temperature to Fahrenheit.
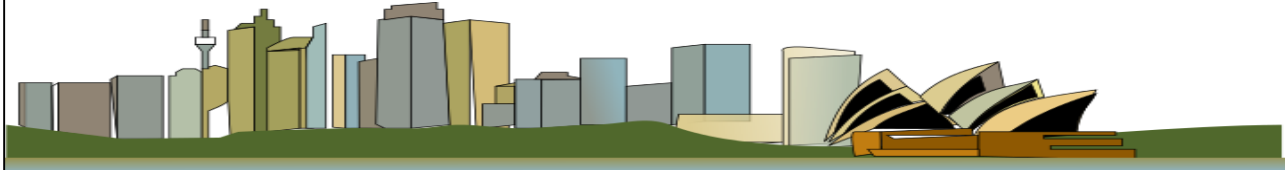
YES, Tenths will go → **e = 0.5**   NO, Tenths won't go → **n = 0.5**

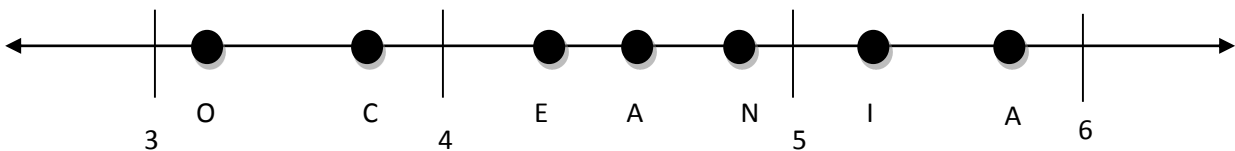During a TV taping of the Amazing Race, Tenths Dontsaypoint stole 50 liters of authentic New Zealand mud.

I figured I'd go out with a Reality TV flourish. I think I'll name my own show *Stealing Weird Stuff*!

AN AMAZING RACE

LEG 1	Write the number: *four and five hundred and eight thousandths*	
LEG 2	Round this number to the nearest hundredths	
LEG 3	Find the sum of this number and 2.80	
LEG 4	Find the product of this number and 0.6	
LEG 5	Estimate the point on the number line	

O   C   E   A   N   I   A

3   4   5   6

Round your final answer to the nearest tenth and you might have figured out me out.

Final Letter = Rounded Answer _____ = _____

CRYPTIC PUZZLE SOLVER TEXT MESSAGE

Here's my two cents… <u>round to the nearest hundredth</u>. ~ Peace, Tenths Dontsaypoint

$$\circledcirc \div C + E \div A + N \bullet i \div A$$