X-Originating-IP: [128.211.159.11]
From: "David Brodrecht" <dbrodrecht@hotmail.com>
To: ivorbula@ecn.purdue.edu, andrisan@ecn.purdue.edu
Subject: Re: rocket constants: Second Request
Date: Mon, 23 Oct 2000 17:28:44 EDT
X-OriginalArrivalTime: 23 Oct 2000 21:28:44.0457 (UTC) FILETIME=[38AB0990:01C03D38]

The diameter of the nozzle is: 0.44 inches. Also, the mass of the nozzle is 42.45 grams.

Dave

From: giesting@purdue.edu
Date: Sun, 22 Oct 2000 17:43:39 -0500
To: andrisan@ecn.purdue.edu
Reply-To: giesting@purdue.edu
Sender: giesting@purdue.edu
Subject: Water rocket

me= .254 lbs
AA= 9.6 in.
V= 36.1 cubic inches
Team number: 18

Flight number	Fuel fraction	Altitude	Comments
1	8.6/20	57ft8in	
2	6.3/20	49ft7in	Rope got caught on Brian

From: "Steve Blaske" <blaske@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)
Date: Sun, 22 Oct 2000 01:29:08 -0500
X-Priority: 3

me=.6 %rocket empty mass, lb (note: units are pounds)
AA=9.5 %projected area, in^2 (area as viewed from the front)
V=36.0938 %bottle volume, in^3 (probably 20 oz. converted to cubic inches)

Team Number___15____

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
___1___	_____1/3_____	__51.5_____	__straight up and down flight_____

From: yochumr@purdue.edu

Date: Fri, 20 Oct 2000 19:26:21 -0500
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Reply-To: yochumr@purdue.edu
Sender: yochumr@purdue.edu
Subject:

Water Rocket data on attached

Robert Yochum
Group 14
Water Rockets

Each team needs to e-mail me the following information about your rocket by class time on Tuesday (10/24/00).

me= **0.1764lbs** %rocket empty mass, lb (note: units are pounds)
AA= **3.977in^2** %projected area, in^2 (area as viewed from the front)
V= **36.1in^3** %bottle volume, in^3 (probably 20 oz. converted to cubic inches)

Please include the following table from our flight tests today (Thursday).

Team Number___**14**____

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
___**1**___	_ **10.7/36.1in^3** _	_____**59ft**_____	Measurement was compromised by other groups.
___**2**___	__**7.6/36.1in^3**__	_____**68ft**_____	pump was changed before launch.

Robert Yochum.
yochumr@purdue.edu

Date: Mon, 23 Oct 2000 14:18:15 -0500
From: Elizabeth Steinbrenner <steinbre@purdue.edu>
X-Accept-Language: en
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)

> Prof. Andrisani,

> Here is group 10's information
>
> me=0.37044 lbs %rocket empty mass, lb (note: units are pounds)
>
> AA=7.0408 in^2 %projected area, in^2 (area as viewed from the
> front)
> V=591.3 cm^3 %bottle volume, in^3 (probably 20 oz. converted

> to
> cubic inches)
>
>
> Team Number___10_____
>
> Flight Number 1

> fuel fraction (nondimensional) 199/591.3 mL

> Altitude of flight (feet)   29 ft.

> Comments on the flight: Everything went well on this flight, we really did
> not have any errors or strange happenings.

>

> Flight Number 2

> fuel fraction (nondimensional) 299/591.3 mL

> Altitude of flight (feet)   52 ft.

> Comments on the flight: After this one was set up some water started
> leaking out of the top, we stopped and refilled it, and then it landed
> funny. The string did not stay in anyone's hands on this one and it did on
> the last one.

>

Thanks, Beth Steinbrenner

Date: Tue, 24 Oct 2000 08:48:48 -0500
From: Brandon Michael Rowe <browe@purdue.edu>
X-Accept-Language: en
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00) Team 27

Team 27

me = 0.1 lbs

AA = 9.5 in^2

V = 36.09 in^3

Flight Number	Fuel Fraction	Altitude	Comments
1	2/3	37'4"	somewhat unstable flight

Leah Wyman
Nathan Meade
Brandon Rowe

Date: Tue, 24 Oct 2000 06:38:17 -0700 (PDT)
From: Jessica jones <eowyn23@yahoo.com>

Subject: rocket results (A&AE 190)
To: andrisan@ecn.purdue.edu

group 2
A&AE 190
10-24-00

me= 3/4 lb %rocket empty mass, lb (note: units are pounds)

AA= 35 in^2 %projected area, in^2 (area as viewed from the front)

V= 20 oz. %bottle volume, in^3 (probably 20 oz. converted to cubic inches)

Team Number 2

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)
1	6.76:20	35.5 ft

Comments on the flight: the string knotted & restricted the flight

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)
2	10:20	56 ft 3 in

Comments on the flight: the cord worked better than the fishing line

From: "Jeri Metzger" <metzgejl@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)
Date: Tue, 24 Oct 2000 07:02:36 -0500
X-Priority: 3

Sent: Thursday, October 19, 2000 3:08 PM
Subject: Water rocket data for Tuesday (10/24/00)

> Please bring in your your rocket to class on Tuesday.
>
> Each team needs to e-mail me the following information about your
> rocket by class time on Tuesday (10/24/00).
>
> me=.17632 %rocket empty mass, lb (note: units are pounds)
> AA=50.2655 %projected area, in^2 (area as viewed from the front)
> V=36.094 %bottle volume, in^3 (probably 20 oz. converted to

> cubic inches)
>
> Please include the following table from our flight tests today (Thursday).
>
>
> Team Number 6
> Flight fuel fraction Altitude of flight Comments on the
flight
> Number (nondimensional) (feet)
1 .423012 38.5
First group to try string rather than fishing line
2 .507614 54.0
No unusual circumstances

>
> An example of a comment might be "string tugged rocket to an abrupt halt."
>
> Fuel fraction is the ratio of the volume of water used to the total
> volume of the cylinder (20 fluid oz.).
➢ --

From: "Chuck Weaver" <ceweaver@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: water rocket data for team 12
Date: Tue, 24 Oct 2000 00:17:52 -0700
X-Priority: 3

Team 12
Chuck Weaver
Joe Taylor
?..?..?..?
?..?..?..?

Prof. Andrisani,
Here is the water rocket data for team 12. I am not sure if the values
are correct for the volume and surface area, but they sound right. Although
nothing seemed visibly wrong, our team had a poor first flight and no time
for a second. Problems could be due to not enough fuel or flimsy fins.

V= 366.1425539 in^3
AA= 10.743 in^2
me= .375 lb

Flight # Fuel Fraction Altitude of flight Comments
1 190ml 25'11" didn't have time
for a second flight

From: ammills@purdue.edu
Date: Mon, 23 Oct 2000 23:29:39 -0500
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Reply-To: ammills@purdue.edu

Sender: ammills@purdue.edu
Subject: Team 21 data

I'm not sure if you recieved this the first time I sent
it, so I'm trying again just in case.

Volume = 36.09375 in^3
Mass = 0.05 lbs
Projected area = 3.61799 in^2
Team 21

Flight No.	Fuel Fraction	Height	Comments
1	1/3	45'	None

From: ammills@purdue.edu
Date: Mon, 23 Oct 2000 23:24:57 -0500
To: andrisan@ecn.purdue.edu
Reply-To: ammills@purdue.edu
Sender: ammills@purdue.edu
Subject: team 21 info

TEAM 21

Volume = 36.09375 in^3
Mass = .05 lbs
Projected area = 3.61799 in^2

Flight No.	Fuel Fraction	Height	Comments
1	1/3	45'	None

X-Originating-IP: [128.210.251.11]
From: "Miguel Gonzalez" <mike_the_g@hotmail.com>
To: andrisan@ecn.purdue.edu
Subject: A&AE 190 water rocket team 4
Date: Tue, 24 Oct 2000 02:49:42 GMT
X-OriginalArrivalTime: 24 Oct 2000 02:49:42.0534 (UTC) FILETIME=[0F606260:01C03D65]

me= .201 lbs
AA= 90,000 in^2
V= 36.09375 in^3

Please include the following table from our flight tests today (Thursday).

Team Number: four
Miguel Gonzalez
Robert Manning
Jeremy Mikkelsen
Julian Moriarty
Kelby Haase

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
1	one third	not available	-We were not able to calculate the altitude of the rocket because the string broke.
2	one third	63.5 feet	-The flight path was pretty straight, except the descent. It was carried by the wind because of the lack of weight.

From: "Matthew Ernst" <ernstm@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)
Date: Mon, 23 Oct 2000 21:41:44 -0500
X-Priority: 3

Mass of empty rocket= I do not have this yet. I'll try to get it to you before class tomorrow.
Projected area= 7.18 in^2
Bottle volume= 36.09 in^2

Test data for team # 24:

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
1	200ml (approx 1/3)	31ft	held string loosely (caused excess drag)

Subject: Water rocket data for Tuesday (10/24/00)
Date: Thursday, October 19, 2000 3:08 PM

Please bring in your your rocket to class on Tuesday.

Each team needs to e-mail me the following information about your rocket by class time on Tuesday (10/24/00).

me=? %rocket empty mass, lb (note: units are pounds)
AA=? %projected area, in^2 (area as viewed from the front)
V=? %bottle volume, in^3 (probably 20 oz. converted to cubic inches)

Please include the following table from our flight tests today (Thursday).

Team Number_____

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight

An example of a comment might be "string tugged rocket to an abrupt halt."

Fuel fraction is the ratio of the volume of water used to the total volume of the cylinder (20 fluid oz.).
--

Date: Mon, 23 Oct 2000 22:37:35 -0400
From: Brandon Henzes <henzes@purdue.edu>
X-Accept-Language: en
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)

Team number 7
Brandon Henzes
Steven Lambert
Alessandro Ianniello
Amos Mckinnon

Mass: .3 lb
Projected area: 42 in^2
volume: 36.093149 in^3

Team number 7

test	fuel fraction	altitude	Comment on flight
1	1/3	42	Went up shot towards the ground
2	1/5	42	Went up used all full and fell towards ground

X-Originating-IP: [128.210.251.11]
From: "Steven Feuerborn" <esteban1013@hotmail.com>
To: andrisan@ecn.purdue.edu
Subject: Group 16 rocket data
Date: Mon, 23 Oct 2000 20:41:23 CDT
X-OriginalArrivalTime: 24 Oct 2000 01:41:23.0679 (UTC) FILETIME=[8444BEF0:01C03D5B]

Sputnik
me=? .5 lb AA=? 18 in^2 V=?
36.09375 in^3

Team Number 16

Flight fuel fraction Altitude of flight Comments Number
(nondimensional) (feet)
1 1/3 33'10" Too much surface

Skylab
me= .35 lb AA= 6.2831 in^2 V=
36.09375 in^3

Team Number 16

Flight fuel fraction Altitude of flight Comments Number
(nondimensional) (feet)
1 1/3 44'7" None

From: apostol@purdue.edu
Date: Mon, 23 Oct 2000 18:53:19 -0500
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Reply-To: apostol@purdue.edu
Sender: apostol@purdue.edu
Subject: Water Rocket Data

Team 1 Data:

me = 0.25 lb
AA = 2.25 in^2
V = .009684 in^3

Flight 1: Fuel Fraction = 200 mL / 591 mL
Altitude = 67 ft
Comments: none

Flight 2: Fuel Fraction = 200 mL / 591 mL
Altitude = 54 ft
Comments: air pump had hole in tubing
causing a loss in overall pumped pressure as we were
pumping. To solve this, we had to pump while the rocket
was released to compensate for the pressure loss and to
try to keep the pressure at a constant 50 psi.

Date: Mon, 23 Oct 2000 16:44:03 -0700 (PDT)
From: Paul <pauljedi18@yahoo.com>
Subject: Water Rocket Data
To: andrisan@ecn.purdue.edu

Professor Andrisani,
Here's Team 22's flight data for the water rocket.

me= .2 lbs.
AA= 8.8 inches squared

V= 36.094 inches cubed

Team #22

Flight Number	Fuel Fraction (non-dimen)	Altitude (feet)
1	.3381	55.5
2	.2198	46.0

Comment on 1: The recorded altitude is higher than the actual altitude received due to the string still extending as the rocket followed a parabolic path to the ground.
Comment on 2: This altitude is a better indication of the rockets path since it was as fairly straight flight with little parabolic arching.

Team 22: Alex Kovach, Andrew Lieberman, Ross May, David Neubauer, and Paul Niziolek.

=====
There's a silver lining to every dark cloud. But every year, hundreds of people are killed by lightning as they try to find it.

Reply-To: "Patrick McGlone" <mcglone@purdue.edu>
From: "Patrick McGlone" <mcglone@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)
Date: Mon, 23 Oct 2000 18:23:43 -0400
Organization: Purdue University
X-Priority: 3

me=0.3
AA=7.324
V= 232.68

Please include the following table from our flight tests today (Thursday).
>
>
> Team Number____4____
>

> Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
>1	.3469	40	Rocket snapped string, may have caused an abrupt slowing of the ascent.
>2	.5415	32	After nose down landing of first test, rocket body may have had some structural damage internally.

From: "Adam Goodson" <goodson@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)
Date: Mon, 23 Oct 2000 18:29:10 -0400
X-Priority: 3

me=.414 lbs %rocket empty mass, lb (note: units are pounds)
> AA=9pi %projected area, in^2 (area as viewed from the front)
> V=36.09375 %bottle volume, in^3 (probably 20 oz. converted
to
> cubic inches)
>
> Please include the following table from our flight tests today (Thursday).
>
>
> Team Number_____20__
>
> Flight fuel fraction Altitude of flight Comments on the flight
> Number (nondimensional) (feet)
> _20_____ _____190_; 250_____ ____53 ; 42_____
_____String did not play a factor, rocket was not obstructed, flight went
well._____
>
> An example of a comment might be "string tugged rocket to an abrupt halt."
>
> Fuel fraction is the ratio of the volume of water used to the total
> volume of the cylinder (20 fluid oz.).

- --.32% for the 150ml and 42% for the 250 ml

From: shew@purdue.edu
Date: Tue, 24 Oct 2000 01:37:47 -0500
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Reply-To: shew@purdue.edu
Sender: shew@purdue.edu
Subject: Re: Water rocket data for Tuesday (10/24/00)

Team number 23

me = about 0.3 lb
AA = about 6.4 in^2
V = about 36.1 in^3

Flight number fuel fraction altitude of flight

1 40% 2/5 48' 10"

Comments on the flight:

Our flight was not as stable as it should have been
because we had too much weight on the fins and not
enough weight in the nose-cone.

From: wardam@purdue.edu
Date: Tue, 24 Oct 2000 09:08:58 -0500
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Reply-To: wardam@purdue.edu
Sender: wardam@purdue.edu
Subject: Water Rocket Data

Mass .2061 lbs
Cross Area 7.0683 in^2
Volume 39.06 in^3

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments
1	200/591	43.83'	
2	350/591	0'	(String Broke)
3	250/591	38.5'	buddy group
4	300/591	54'	buddy group

This is the data for group 13.
Sincerely
Andrew Ward

From: "Matt Brinker" <brinker@purdue.edu>
To: <andrisan@ecn.purdue.edu>
Subject: water rocket data from team 25
Date: Tue, 24 Oct 2000 11:04:08 -0400
X-Priority: 3

weight=.3375 lbs
weight with nozzle=.4325 lbs (nozzle=43 g)
frontal area=7.07 in^2
fuel fraction=12.8/20
volume=36.1 in^3
flight 1=37 ft.

From: "Brian Pramann" <pramann@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: RE: Water rocket data for Tuesday (10/24/00)
Date: Tue, 24 Oct 2000 10:53:26 -0500
X-Priority: 3 (Normal)
Importance: Normal

Please bring in your your rocket to class on Tuesday.

Each team needs to e-mail me the following information about your rocket by class time on Tuesday (10/24/00).

me= .2945 lb %rocket empty mass, lb (note: units are pounds)
AA=49.74 cm^2 %projected area, in^2 (area as viewed from the front)
V=36.09 in^3 %bottle volume, in^3 (probably 20 oz. converted to
cubic inches)

Please include the following table from our flight tests today (Thursday).

Team Number__9_____

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
1	.338	42'8"	strait up

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
2	.473	50'3"	angled more(not much)

An example of a comment might be "string tugged rocket to an abrupt halt."

Fuel fraction is the ratio of the volume of water used to the total volume of the cylinder (20 fluid oz.).
--

Date: Tue, 24 Oct 2000 09:19:52 -0700 (PDT)
From: Jessica jones <eowyn23@yahoo.com>
Subject: A&AE 190 rocket results
To: andrisan@ecn.purdue.edu

group 2 (the area was wrong so i fixed it,
A&AE 190 the weight is also wrong but it
10-24-00 can't be fixed till tomorrow)

me= 3/4 lb %rocket empty mass, lb (note: units are pounds)
AA= 7.1 in^2 %projected area, in^2 (area as viewed from the front)
V= 20 oz. %bottle volume, in^3 (probably 20 oz. converted to cubic inches)

Team Number 2

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)
1	6.76:20	35.5 ft

Comments on the flight: the string knotted & restricted the flight

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)
2	10:20	56 ft 3 in

Comments on the flight: the cord worked better than the fishing line

Date: Tue, 24 Oct 2000 08:55:28 -0700 (PDT)
From: austin smith <austinlon@yahoo.com>
Subject: water rocket data
To: andrisan@ecn.purdue.edu

Team 3
Austin Smith
Jeff Gordon
Nicholas Basham
Brad Fronberry

me= .31 lbs.(total)
AA=9.6 in.^2
V=36.1 in.^3

flight 1: Fuel Frac=1/3
Altitude=44+10/12ft
Comments=The rocket flipped near its max height.

flight 2: Fuel Frac=5/17
Altitude=55+7/12ft
Comments=Good flight but slightly diagonal.

From: "Matthew Ernst" <ernstm@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)
Date: Tue, 24 Oct 2000 11:47:16 -0500
X-Priority: 3

Professor Andrisani,

Here is our teams updated rocket statistics. The first e-mail I sent you did not contain a mass value.

Team # 24

me= .18125 lb

AA= 7.18187 in^2
V=36.06503 in^3

Flight Number	Fuel Fraction of Flight	Altitude	Comments
1	200ml (approx.. 1/3)	131 ft	Extra drag caused by a loose grip on the string.

Date: Tue, 24 Oct 2000 13:16:55 -0400
From: Eric Gustafson <gustafse@purdue.edu>
X-Accept-Language: en
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: CORRECTION for Water Rocket Data

Sorry, our frontal area was wrong...

Team Number 5

Flight Number	fuel fraction (nondimensional)	Altitude of flight (feet)	Comments on the flight
1	1/3	35	very unstable flight, string was tugging, possible leak
2	1/4	42' 4''	added duct tape to fins, much better flight, more normal trajectory

me=.28125 lbs
AA=7.5 in^2
V=36.09 in^3

Eric Gustafson
Drew Hosford
Matt Heinemann
Tyson Mowery
Robert Rhea

From: bogenber@purdue.edu
Date: Tue, 24 Oct 2000 18:25:19 -0500
To: andrisan@ecn.purdue.edu
Reply-To: bogenber@purdue.edu
Sender: bogenber@purdue.edu
Subject: Water Rocket Data

Sorry this is late....

me = .4034 lbs
AA = 7.9577 in^2
V = 36.1 in^3

Team # 19

Flight Number = 1
Fuel Fraction = .338 (200/591.3 ml)
Altitude = 59 feet
Comments: Rocket launced almost vertically throughout
the flight. String was not pulled tight until the
rocket began to fall to the ground. Water leaked
through the nozzle while waiting for the launch.

Thanks,
Brienne

From: "Brady Kalb" <kalbb@purdue.edu>
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Subject: Re: Water rocket data for Tuesday (10/24/00)
Date: Tue, 24 Oct 2000 19:30:18 -0500
X-Priority: 3

> me= .245 lbs
> AA=20 in^2
> V=36.09 in^3
>

>
>
> Team Number__26_____
>
> Flight fuel fraction Altitude of flight
Comments on the flight
> Number (nondimensional) (feet)
> 1 67% 50' 1"
Flew straight. landed 10 feet from launch pad

  2 42.3% 67' 0"
Flew straight landed 5 feet from launch pad

From: browe@purdue.edu
Date: Wed, 25 Oct 2000 06:59:56 -0500
To: "Dominick Andrisani, II" <andrisan@ecn.purdue.edu>
Reply-To: browe@purdue.edu
Sender: browe@purdue.edu
Subject: Corrections team 27

The surface area for team 27 should be about 9.5
instead of the previously mentioned measurement.