Sail into Summer with Math!

For Students Entering Math 6, 7, Algebra Prep or IM

Write Numbers in Words and Digits

Exercises:
Write the number name:

1. 560.08 _____
2. 7.016 _____
3. 24.47 _____
4. 6,003 _____
5. 3,005,600.07 _____

Write the number the name represents:

6. Forty-five thousandths _____
7. Seventeen and seven hundredths _____
8. Five million, three hundred thousand, twenty-nine and six tenths _____
9. Six million and five thousandths _____
10. Two hundred eight thousand, four _____

Order Decimals

Exercises:
List each group of numbers in order from least to greatest:

1. 20, 4, .6, .08 _____
2. 246.8, 248.6, 244.9, 246.5 _____
3. 1.03, 2.4, .89, .987 _____
4. 14.8, 2.68, .879, 8.47 _____
5. 5.3, 5.12, 5.38, 5.29 _____
6. 54.89, 56.3, 58.1, 52.98 _____

Rename Fractions, Percents, and Decimals

Exercises: **No Calculators!**

Rename each fraction as a decimal:

1. $\frac{1}{5} =$ 2. $\frac{3}{4} =$ 3. $\frac{1}{2} =$

Rename each fraction as a percent:

4. $\frac{1}{3} =$ 5. $\frac{8}{10} =$ 6. $\frac{2}{3} =$

Rename each percent as a decimal:

7. 8% = 8. 60% = 9. 11% =

Add and Subtract Whole Numbers

Exercises: Solve: **No Calculators!**

1. 6,496 + 4,113 + 3,608

2. 54,398 + 64,508 =

3. 3,254 + 754 + 690

4. 14,789 - 908 =

Multiply and Divide Whole Numbers

Exercises: Solve: **No Calculators!**

1. 742 x 17

2. 25 x 13

3. 659 x 7

4. $86\overline{)2{,}236}$ 5. $57\overline{)13{,}338}$ 6. $5\overline{)205}$

Add Mixed Numbers

Exercises: Solve in lowest terms: **No Calculators!**
SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. $2\frac{1}{4} + 8\frac{1}{2}$

2. $3\frac{8}{15} + 7\frac{1}{3}$

3. $3\frac{3}{5} + 5\frac{1}{2}$

4. $5\frac{3}{8} + 4\frac{1}{4}$

5. $7\frac{3}{7} + 6\frac{1}{2}$

Subtract Mixed Numbers

Exercises: Solve in lowest terms: **No Calculators!**
SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. $4\frac{1}{3} - 2\frac{1}{4}$

2. $6\frac{3}{4} - \frac{2}{3}$

3. $9\frac{2}{3} - 6\frac{1}{4}$

4. $6\frac{3}{4} - 5\frac{1}{5}$

5. $7\frac{1}{2} - 3\frac{1}{4}$

6. $\left\lceil \frac{2}{3} - \frac{5}{9} \right\rceil + \left\lceil \frac{4}{7} + \frac{1}{6} \right\rceil =$

7. $\left(\frac{3}{4} + \frac{4}{5}\right) - \left(\frac{5}{9} + \frac{9}{11}\right) =$

Multiply & Dividing Fractions and Solve Proportions

Exercises: Solve **No Calculators!**
SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. $6\frac{2}{3} \bullet 7\frac{3}{7} =$
2. $3\frac{1}{3} \bullet 6\frac{4}{5} =$
3. $7\frac{1}{8} \bullet (-6) =$
4. $1\frac{1}{5} \div 4\frac{2}{5} =$
5. $4\frac{4}{7} \div \frac{4}{9} =$
6. $-\frac{8}{9} \div \left(-2\frac{3}{5}\right) =$
7. $\frac{1}{5} = \frac{n}{20}$
8. $\frac{3}{n} = \frac{12}{28}$
9. $\frac{3}{7} = \frac{12}{n}$

Add and Subtract Decimals

Exercises: Solve: No Calculators!
SHOW ALL WORK.

1. 15.7 + 2.34 + 5.06 =
2. 64.038 + 164.8 + 15.7 =
3. 543.8
27.64
+ 6.9
4. 2.6 + (-4.75) =
5. - 43.31 + 7.406 =
6. 87.4 - 56.09 =
7. 5.908 - 4.72 =
8. 68.9 - 24.74 =
9. -955.3 - 242.7 =

Multiply and Divide Decimals

Exercises: Solve: **No Calculators!**
SHOW ALL WORK..

1. 63
x .14
2. .87
x 2.3
3. 8.94
x 2.1
4. 4.2
x .62
5. 34.5
x 4.7
6. - 32.1
x .45
7. -91.4
x -47
8. $35\overline{)70.35}$
9. $7\overline{)25.83}$
10. $-14\overline{)45.584}$

Find Percent of a Number

Exercises: Solve for n: **No Calculators!**
SHOW ALL WORK.

1. 30% of 450 = n
2. 7% of 42 = n
3. 10% of 321 = n
4. 15% of 54 = n
5. 9.05% of 750 = n
6. 160% of 42 = n

Using Percents to Solve Problems

Exercises:
SHOW ALL WORK..

1. Susie has just bought a pair of jeans for $49.95, a sweater for $24.50, and a jacket for $85.95. The sales tax is 5%. What is her total bill?

2. Jack bought a set of golf clubs for $254.00 and received a rebate of 24%. How much was the rebate?

3. A construction manager calculates it will cost $2,894.50 for materials for her next project. She must add in 12.5% for scrap and extras. What will bill the total cost?

4. The regular price for a video game system is $164.50 but is on sale for 30% off. What is the amount of the discount?
   What is the sale price?

5. Cindy earns a 15% commission on all sales. On Saturday, she sold $985.40 worth of merchandise. What was the amount of commission she earned on Saturday?

Integers I

Exercises: Solve the following problems:

1. (-4) + (-5) =
2. -9 - (-2) =
3. 6 + (-9) =
4. (-6) - 7 =
5. 7 - (-9) =
6. 15 - 24 =
7. 29 - 16 + (-5) =
8. -15 + 8 - (-19.7) =
9. 45.6 - (-13.5) + (-14) =
10. -15.98 - 6.08 - 9 =

Integers II

Exercises: Solve the following problems:

1. 4 • (-3) • 6 =
2. 5(-12) • (-4) =
3. (4)(-2)(-3) =
4. $\frac{(-5)(-6)}{-2} =$
5. $\frac{6(-4)}{8} =$
6. $\frac{-56}{2^3} =$
7. $\frac{-14}{2} + 7 =$
8. $8 - \frac{-15}{-3} =$
9. $-3 + \frac{-12 \bullet -5}{4} =$
10. $\frac{-6-(-8)}{-2} =$
11. $-7 + \frac{4+(-6)}{-2} =$
12. $\frac{4+(-6)-5-3}{-6+4} =$
13. $(-2)^3(-5-(-6)) =$

Solving Equations I

Exercises: Solve the following problems: **No Calculators!**
SHOW ALL WORK.

1. $x + 8 = -13$
2. $t + (-9) = 4$
3. $-4t = -12$
4. $\frac{r}{4} = 24$
5. $y - 4 = -3$
6. $h + 8 = -5$

Solving Equations II

Exercises: Solve the following problems: **No Calculators!**
SHOW ALL WORK.

1. $-4t - 6 = 22$
2. $\frac{m}{-5} + 6 = -4$
3. $-4r + 5 = -25$
4. $\frac{x}{-3} + (-7) = 6$
5. $5g + (-3) = -12$
6. $\frac{y}{-2} + (-4) = 8$

Equations - Variables on Each Side

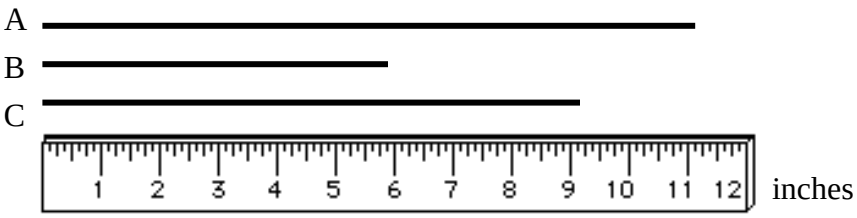
Exercises: Solve the following problems: **No Calculators!**
SHOW ALL WORK.

1. $4r - 7 = 8r + 13$
2. $14 + 3t = 5t - 12$
3. $4x + 5 = 3x - 3$
4. $6y + 5 = 4y - 13$
5. $5x - 8 = 6 - 2x$
6. $7p - 8 = -4p + 6$

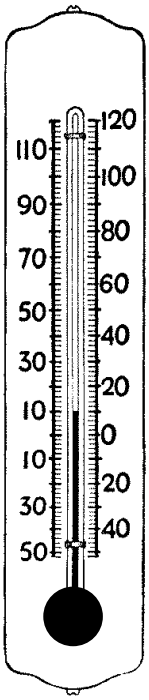
Reading Scales

Exercises:

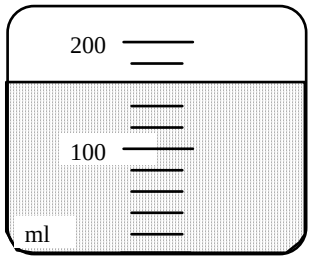
1. Find the length of each line to the nearest inch:



2. Find the temperature in Celsius



3. Determine the amount of liquid in ml.



Find Elapsed Time

Exercises:

1. The school day begins at 7:55 a.m. and ends at 2:40 p.m. How long are you in school?

1. If you go to sleep at 9:30 p.m. and wake up at 6:30 a.m. the next morning, how long did you sleep?

2. If you want to cook a chicken that takes 4 hours and 30 minutes to completely cook and you are planning dinner for 6:00 p.m., what time do you need to start cooking the chicken?

Choose an Appropriate Unit of Measure

Exercises: Select the most appropriate unit to measure these items:

Example:	Standard	Metric
1. Volume of a gasoline can		
2. Area of a postage stamp		
3. Length of a bedroom wall		
4. Capacity of a can of soda		
5. Height of an door		
6. Volume of a cereal box		

Central Tendency

Exercises: **No Calculators!**

SHOW ALL WORK.

For problem 1, use the following chart

Week	Monday	Tuesday	Wednesday	Thursday	Friday
1	65	68	72	74	68
2	68	75	80	68	75
3	75	74	69	79	80
4	80	82	76	67	79

1. Find the average (mean) temperature for:

Monday _____ Tuesday _____ Wednesday _____

Thursday _____ Friday _____

2. If George has test scores of 85, 88, 92, and 87, what is his average (mean) score?

Challenge: Using the same test scores for George, what would his fifth test score need to be to have an average (mean) grade of 90?

1. If Tina's bowling scores were 120, 155, 145, 155, and 138.
   What is her average (mean) score?
   What is her median score?
   What is her mode score?

Solve Money Problems

Exercises: **No Calculators!**
SHOW ALL WORK. Use a separate sheet of paper (if necessary) and staple to this page.

1. Frank works at Apartment Depot and earns $8.50 per hour. Last week, he worked 36 hours. What was his total pay?

2. Harry went to Rent-a-Center and rented a pneumatic nailer for $45.00, a power sander for $39.95, and a radial arm saw for $57.90. What was his total bill, excluding tax?

3. Joe is planning a trip to Houston and has calculated $450.95 for lodging, $98.00 for food, and $114.50 for gasoline. How much will his trip cost?

Make Change

Exercises: **No Calculators!**
SHOW ALL WORK..

1. Kathy bought a soft pretzel and a diet coke for $2.37. If she handed the clerk a twenty dollar bill, how much change should she receive?

2. Linda bought groceries for a total of $29.35. If she handed the cashier two twenty dollar bills, how much change will she receive?

3. Jorge purchased a new pair of jeans for $43.28 and paid with a fifty dollar bill. How much change will he receive?

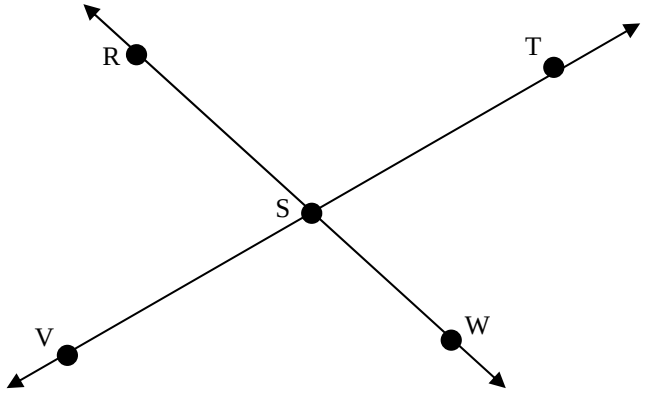
Geometry I

Exercises:
1. Define an acute angle and an obtuse angle

2. If you have a 43º angle, what is the measure of the angle which is complementary to it?

3. If you have a 43º angle, what is the measure of the angle which is supplementary to it?

4. Using the figure, list two pairs of vertical angles and two pairs of adjacent angles.

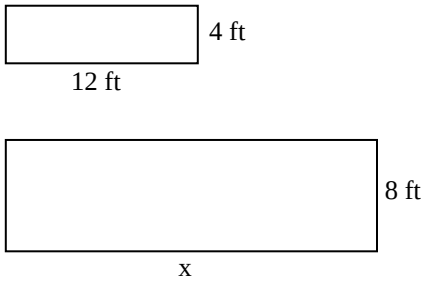


Similar Figures

Exercises: **Calculators May Be Used.**

Solve for the indicated variables (All figures are similar):

1.



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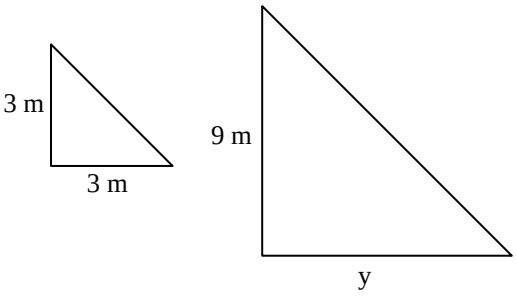
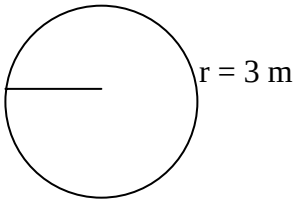


Area and Perimeter / Circumference

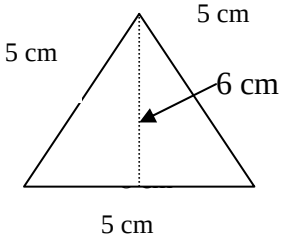
Exercises **Calculators May Be Used.**

Find the area and perimeter /circumference of each shape. SHOW ALL WORK.

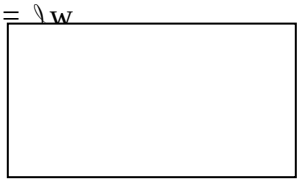
1. $A = \pi r^2$



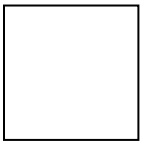
2. $A = \frac{1}{2}(bh)$



3. $A = \ell w$

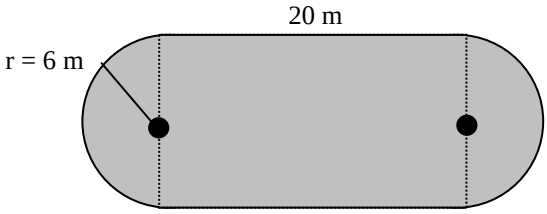


4. $A = s^2$ or $A = \ell w$



Find the area of the shaded regions.

5.



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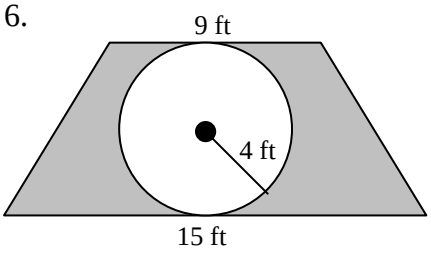

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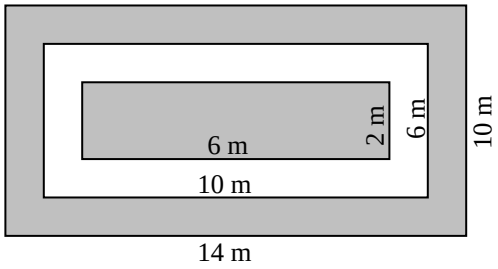

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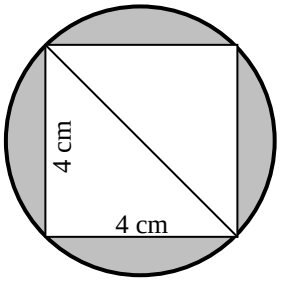
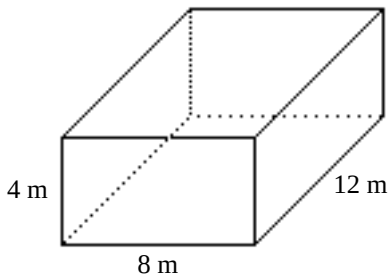


Volume and Surface Area

Exercises **Calculators May Be Used.**

Find the volume and surface area of each shape. SHOW ALL WORK.

1.



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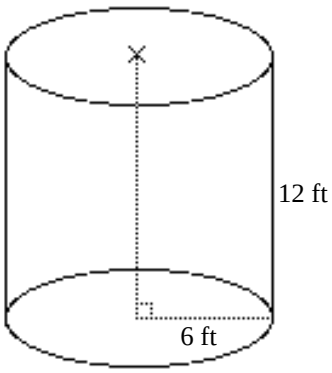

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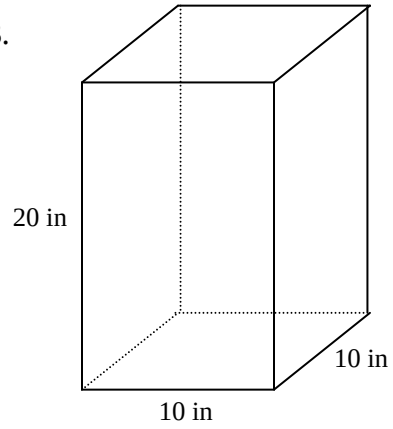

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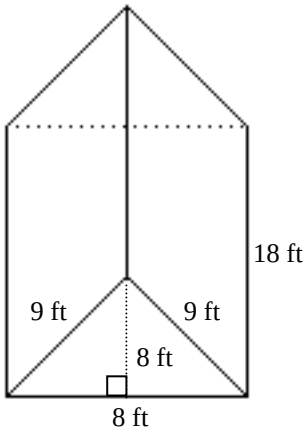
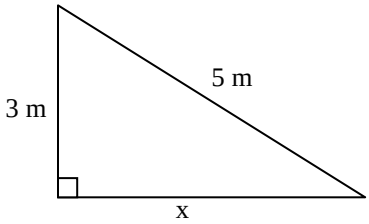


The Pythagorean Theorem

Exercises: Solve for the variable: **Calculators May Be Used**
SHOW ALL WORK.

1.



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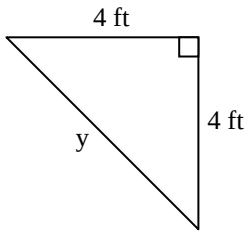

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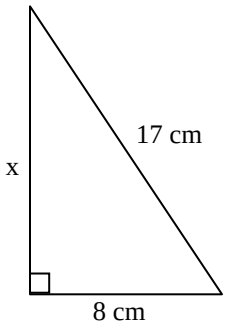

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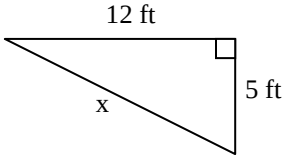

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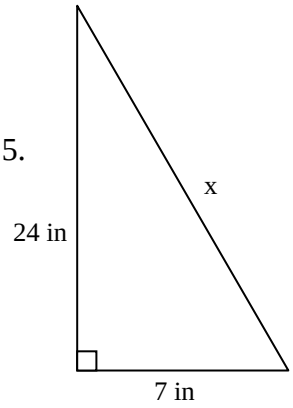

Answers to Each Section

Write Numbers in Words and Digits

1. five hundred sixty and eight hundredths
2. seven and sixteen thousandths
3. twenty four and forty seven hundreths
4. six thousand three
5. three million, five thousand, six hundred and seven hundredths

Write the number the name represents

1. .045
2. 17.07
3. 5,300,029.6
4. 6,000,000.005
5. 208,004

Ordering Decimals

1. .08, .6, 4, 20
2. 244.9, 246.5, 246.8, 248.8
3. .89, .987, 1.03, 24
4. .879, 2.68, 8.47, 14.8
5. 5.12, 5.29, 5.3, 5.38
6. 52.98, 54.89, 56.3, 58.1

Rename Fractions, Percents, and Decimals

1) .2	2) .75	3) .5
4) 33 1/3 %	5) 80%	6) 66 2/3 %
7) .08	8) .60	9) .11

Add and Subtract Whole Numbers

1) 14,217	2) 118,906	3) 4,698
4) 13, 881		

Multiply and Divide Whole Numbers

1) 12, 614	2) 325	3) 4, 613
4) 26	5) 234	6) 41

Add Mixed Numbers

1) 10 3/4	2) 10 13/15	3) 9 1/10
4) 9 5/8	5) 13 13/14	

Subtract Mixed Numbers

1) 2 1/12	2) 6 1/12	3) 3 5/12
4) 1 11/20	5) 4 1/4	6)107/126

1. 349/1980

Multiplying and Dividing Fractions and Solving Proportions

1) 49 11/21 2) 22 2/3 3) -42 3/4

4) 3/11 5) 10 2/7 6) 40/117

7) n = 4 8) n = 7 9) n = 28

Adding and Subtracting Decimals

1) 23.1 2) 244.538 3) 578.34

4) -2.15 5) -35.904 6) 31.31

7) 1.188 8)44.16 9) -1198

Multiplying and Dividing Decimals

1) 8.82 2) 2.001 3) 18.774

4) 2.604 5) 162.15 6) -14.445

7) 4295.8 8) 2.01 9) 3.69 10) -3.256

Find Percent of a Number

1) n = 135 2) n = 2.94 3) n = 32.1

4) n = 8.1 5) n = 67.875 6) n = 67.2

Using Percents to Solve Problems

1) The total bill is $168.42.
6. The rebate is $60.96.
7. The total cost is $3256.31.
8. The discount is $49.35 and the sale price is $115.15.
9. The commission earned is $147.81.

Integers I

1) -9 2) -7 3) -3

4) -13 5) 16 6) -9

7) 8 8) 12.7 9) 45.1 10) –31.06

Integers II

1) -72 2) 240 3) 24

4) -15 5) -3 6) -7

7) 0 8) 3 9) 12

10) -1 11) -6 12) 5 13) -8

Solving Equations I:

1) $x = -21$ 2) $t = 13$ 3) $t = 3$

4) $r = 96$ 5) $y = 1$ 6) $h = -13$

Solving Equations II:

1) $t = -7$ 2) $m = 50$ 3) $r = 30/4$

4) $x = -39$ 5) $g = -9/5$ 6) $y = -24$

Equations - Variables on Each Side:

1) $r = -5$ 2) $t = 13$ 3) $x = -8$

4) $y = -9$ 5) $x = 2$ 6) $p = 14/11$

Reading Scales:

1) A: 11 in.
B: 6 in.
C: 9 in.

2) 10 degrees Celcius
3) 160 mL

Find Elapsed Time:

1) 6 hours, 45 minutes 2) 9 hours 3) 1:30 pm

Choose an Appropriate Unit of Measure

1) gallon, liter 2) in^2, cm^2 3) feet, meters

4) fluid ounces, mL 5) feet, meters 6) ounces, grams

Central Tendency

1) Monday: 72
Tuesday 74.75
Wednesday: 74.25
Thursday: 72
Friday: 75.5

2) 88 challenge: 98

3) mean: 142.6
median: 145
mode: 155

Solve Money Problems

1) $306 2) $142.85 3) $663.45

Make Change

1)$17.63 2) $10.65 3) $6.72

Geometry

1) acute angle is less than 90 degrees obtuse angle is greater than 90 degrees

2) 47 degrees 3) 137 degrees

4) Vertical Angles
Angle RST and Angle WSV
Angle RSV and Angle WST
Adjacent Angles
Angle VSR and Angle RST
Angle RST and Angle TSW
Angle TSW and Angle WSV
Anlge WSV and Angle VSR

Similar Figures

1) x=24 ft 2) y= 9 m

Area and Perimeter/ Circumference

1) A= 28.3 m(sq)
C= 18.8 m

2) A= 15 cm^2
P= 15 cm

3) A= 24 cm^2
P= 20 cm

4) 53.3 in(sq)

5) 353.1 m(sq)

6) 45.7 ft(sq)

7) 92 m(sq)

8) 9.1 cm(sq)

Volume and Surface Area

1. V= 384 m(cubed)
S= 352 m(sq)

2) V=1357.2 ft(cubed)
S= 678.6 ft(sq)

3) V= 2000 in(cubed)
S= 1000 in(sq)

4) V=576 ft(cubed)
S= 532 ft(sq)

The Pythagorean Theorem

1) x= 4 m

2) y=5.7 ft

3) x=15 cm

4) x=13 ft

5) x= 25 in