1) Simplify the following and write your answer in scientific notation.

(6)

a) $\frac{7.65*10^{-2}}{5.67*10^4}$ 1.349×10^{-6}

b) $(42.3 * 10^4)(6.23 * 10^{-14})$ 2.635×10^{-8}

2) Answer the following questions about percentages. Remember the three different types of percent questions we talked about.

(6)

a) What is 27% of 102? $.27 \cdot 102 = \boxed{27.54}$

b) 56 is what percent of 70? $56/70 = \boxed{80\%}$

c) 15 is 75% of what number? $15/.75 = \boxed{20}$

3) Taya invested \$7,000 in a savings account and earned \$68 over 2 years. What was the interest rate she was earning? How much money does she have now? $68 = 7000 \cdot 2 \cdot r$ $\boxed{r = .486\%}$ $\boxed{\$7068}$

(3)

4) Solve the following equations for the given variable. Be sure to show all your work

(4)

a) $x - 4 = 36$
$\underline{+4 \quad +4}$
$x = 40$

b) $\frac{7x}{7} = \frac{28}{7}$ $\boxed{x = 4}$

5) Solve the following equations for the given variable. Be sure to show all your work!!! Leave your answers in the simplest fraction form.

(6)

a) $-7(4x - 7) = -35$
$-28x + 49 = -35$
$\underline{-49 \quad -49}$
$\frac{-28x}{-28} = \frac{84}{-28}$ $\boxed{x = 3}$

b) $2(6x + 9) = 6(2x + 3)$
$12x + 18 = 12x + 18$
$18 = 18$ $\boxed{\text{All Reals}}$

6) Write the following numbers in scientific notation.

(4)

a) 450000 $4.5 \times 10^{+5}$

b) .0017 1.7×10^{-3}

7) Find the percent of change in the following problems. Keep one decimal place in all your answers

(6) ←

a) 37 is decreased to 25 $\frac{25-37}{37} = \boxed{-32.4\%}$

b) Milk priced went from \$3.98 to \$4.78 $\frac{4.78-3.98}{3.98} = 20.1\%$

8) Give the name of the following units.

(4)

a) dJ decijoule	b) microsecond μs
c) mg milligram	d) picowatt pW

9) One Step Conversions $\times 10^{-2}$

(6)

a) 0.0723 kJ to J $\frac{10^3 J}{1 kJ}$ = $7.23 \times 10 J$

b) 445 s to ms $\frac{\times 10^2 \quad 10^3 ms}{1 s}$ = $\boxed{4.45 \times 10^5 ms}$

10) Lance drove 90ft at 600m/hr. How long did it take him?

(3)

$\frac{90ft}{} \left| \frac{12 in}{1 ft} \right| \frac{2.54cm}{1 in} \left| \frac{1 m}{10^2 cm} \right. = 27.43 m$

$\frac{27.43 m}{600 m/hr} = .04572$ $\boxed{4.572 \times 10^{-2} hr}$

$$4.18 \cdot 12 \cdot (x - 80) = -4.18 \cdot 10 \cdot (x - 5)$$
$$50.16x - 4012.8 = -41.8x + 209$$
$$91.96x = 4221.8$$
$$x = \boxed{45.9\,°C}$$

11) Given the following tables, find the missing values. Use the formula from our lab:

$$c_1 m_1 (F_1 - I_1) = -c_2 m_2 (F_2 - I_2)$$

I1		80	I2		5
F1			F2		
m1		12	m2		10
c		4.18	c		4.18

12) You buy a loaf of bread for $1.5 that has 24 slices of bread, a container of meat for $4 that has 16 slices, a package of cheese for $6 with 14 slices of cheese. How much does it cost to make a sandwich using: 1 slices of bread, 2 slices of meat, and 2 slices of cheese?

bread: .06, meat: .25, cheese: .43, $\boxed{\$1.42}$

13) Solve the following equations for the given variable. Be sure to show all your work!! Leave your answers in the simplest fraction form.

a) $\dfrac{x}{18} = \dfrac{5}{6}$ $\dfrac{6x}{6} = \dfrac{5 \cdot 18}{6}$ $\boxed{x = 15}$

b) $\dfrac{x-3}{x} = \dfrac{12}{7}$ $12x = 7(x-3)$ $= 7x - 21$ $-7x \quad -7x$ $5x = -21$ $\boxed{x = -4.2}$

14) Solve the following equations for the given variable. Be sure to show all your work!! Leave your answers in the simplest fraction form.

a) $\dfrac{-11x+9}{5} = 4 \cdot 5$ $-11x + 9 = 20$ $\dfrac{-9 \quad -9}{} $ $\dfrac{-11x}{-11} = \dfrac{11}{-11}$ $\boxed{x = -1}$

b) $\dfrac{x}{3} + 7 = 21$ $-7 \quad -7$ $\dfrac{x}{3} = 14 \cdot 3$ $\boxed{x = 42}$

15) Two Step Conversions

a) $\overset{\times 10^5}{936800}$ dm to km $\dfrac{936800\,dm}{} \left| \dfrac{1\,km}{10\,dm} \right| \dfrac{}{10^3\,m} = \boxed{9.368 \times 10\,km}$

b) $\overset{\times 10^1}{0.4744}$ nJ to µJ $\dfrac{0.4744\,nJ}{} \left| \dfrac{10^6\,µJ}{10^9\,nJ} \right| \dfrac{J}{J} = \boxed{4.744 \times 10^{-4}\,µJ}$

16) Calculate the sales tax AND the final price paid. When you see the symbol (@) it means "at this price per item."

a) Bought:
    Star Wars VI @ $25
    3 Shirts @ $15   45
    Tax Rate: 9%   70
    Tax: $6.3
    Total: $\boxed{76.3}$

b) Original Price: $500 $500 \cdot .3 = 150$
    Discount rate: 30%
    New Price: $\boxed{350}$

17) Find the mean, mode, and range of the data set. Show the work I asked you to show on your HW.

20, 72, 72, 73, 74, 75, 76, 77, 81, 91, 82, 85, 86, 88
81, 73, 20, 88, 86, 85, 82, 81, 72, 72, 79, 75, 74, 76

mean: 74.6
mode: 72, 81
range: 68

18) Using the same numbers above, find the:

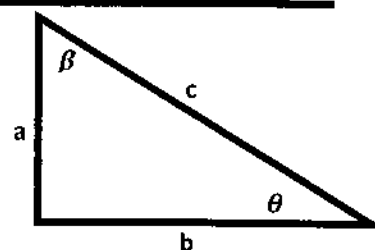| Min	Lower quartile	Median	Upper quartile	Max	Interquartile range
20	73	74 72.5	82	88	9 82-73

1)

Using the triangle on the right and the values given, find all the missing sides and angles. in the following chart.

$$\sin(\mathbf{\chi}) = \frac{5}{c}$$

$$c = 5.32$$

(9)

Given:	θ	β	a	b	c
a)	20°	70°	1.82	5	5.32
b)	45°	45°	3	3	4.24
c)	60°	30°	8.66	5	10

$3^2 + 3^2 = c^2$

$9 + 5^2 = 10^2$

2) What are the definitions of the following trigonometric functions

$\sin(\theta) = off/hyp$
$\cos(\theta) = adj/hyp$
$\tan(\theta) = off/adj$
$\csc(\theta) = hyp/off$
$\sec(\theta) = hyp/adj$
$\cancel{\tan}(\theta) = adj/off$
cot

(3)

3) Each of the trig functions given above are abbreviations. What do each of the abbreviations stand for?

(3)

Sine, cosine, tangent, cosecant, secant, cotangent.

4) Using the triangle above and the values given, fill in the following chart.

(3)

Trig Function	a) $b = 5, c = 13$
$\sin \theta$	12/13
$\cos \theta$	5/13
$\tan \theta$	12/5
$\csc \theta$	13/12
$\sec \theta$	13/5
$\cot \theta$	5/12
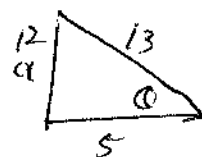
$a^2 + 5^2 = 13^2$

5) Using the triangle on the right and the values given, find all the missing sides and angles. in the following chart.
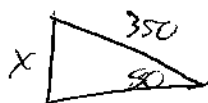
$3^2 + b^2 = 5^2$

$24^2 + b^2 = 25^2$
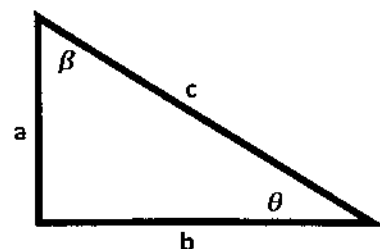
Given:	θ	β	a	b	c
a)	36, 37°	53°	3	4	5
b)	74°	16°	24	7	25

6) A boy flying a kite lets out 350 feet of string which makes an angle of 80° with the ground. Assuming that the string is straight, how high above the ground is the kite?

$Sin(80) = \dfrac{x}{350}$

$X = 344.68 ft$

7) Find each angle.
a) $\sin(\theta) = .707$

45°

b) $\cos(\theta) = .866$

30°

c) $\tan(\theta) = -1$

−45°

d) $\sin(\theta) = 0.6561$

41°

8) A ladder leans against a building. The top of the ladder reaches a point on the building which is 15 feet above the ground. The foot of the ladder is 5 feet from the building.
a) Find the measure of the angle which the ladder makes with the level ground.

72°

b) How long is the ladder?

15.8 ft
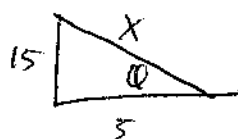
$\tan \theta = \dfrac{15}{5}$

$\theta = 72°$

$5^2 + 15^2 = c^2$
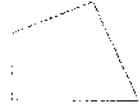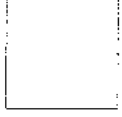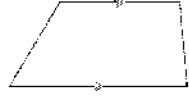
$c = 15.8 ft.$
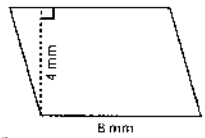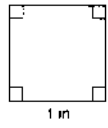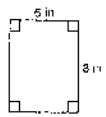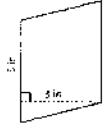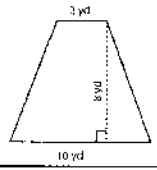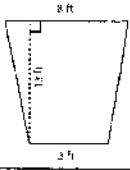
1) Classify the following as a quadrilateral, parallelogram. rhombus, trapezoid, rectangle, or square.

	rhombus		quadrilateral
	rectangle.		parallelogram
	Square		trapezoid.

(6)

2) Calculate the area for each of the following quadrilaterals.
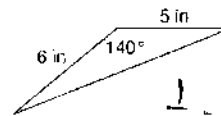
(12)

	$4 \cdot 8 = 32 \text{mm}^2$	1in^2
	$6 \cdot 8 = 48 \text{in}^2$	$5 \cdot 3 = 15 \text{in}^2$
	$\frac{1}{2}(2+10) \cdot 8$ 48yd^2	$\frac{1}{2}(8+3)(13)$ 71.5ft^2

3) Calculate the area of the following non-right triangles.

(6)

a) A triangle with two sides that measure 6ft and 3 ft with a n included angle of 60°.
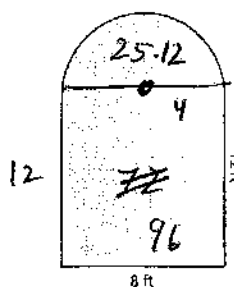
$\frac{1}{2} 6 \cdot 3 \sin 60 = 7.79 \text{ft}^2$

b)

$\frac{1}{2} \cdot 6 \cdot 5 \cdot \sin(140) = 9.64 \text{in}^2$

4) Calculate the area and perimeter for each of the following shapes.
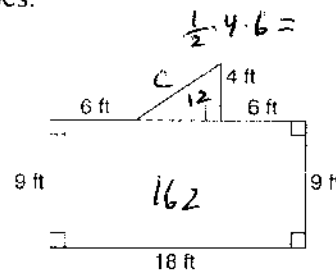
(8)

(4)

a)

$25 \cdot 12$ $\frac{1}{2} 4^2 \pi$

$A = 121.12 \text{ft}^2$

$P = 12 + 8 + 12 + \frac{1}{2} \cdot 8 \cdot \pi$

$\boxed{= 44.56 \text{ft}}$

b)

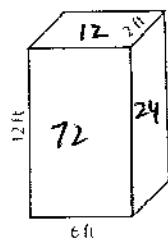$\frac{1}{2} \cdot 4 \cdot 6 =$

$4^2 + 6^2 = c^2$

$c = 7.21$

162

$A = 174 \text{ft}^2$

$P = 9 + 18 + 9 + 6 + 4 + 7.21 + 6$

$= 59.21 \text{ft}.$

5) Calculate the surface area AND volume of the following shapes.

$SA = \boxed{2815.06 cm^2}$

a)

$SA = 2(12+24+72)$
$= \boxed{216 ft^2}$

$V = 2 \cdot 12 \cdot 6$
$= \boxed{144 ft^3}$

b) $V = \frac{1}{2} \cdot 20 \cdot 28 \cdot 33$
$= 9240 cm^3$

$\triangle \quad \frac{1}{2} 20 \cdot 28$

$\boxed{33}$ 28

$\boxed{24.41} \times 2$ 33
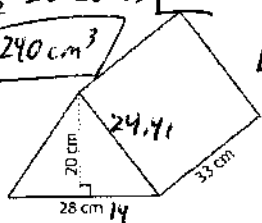
c)

$SA = 13^2 \cdot \pi \cdot 2$
$= 1061.32 + 204$

$\boxed{2041} 25$

$26 \cdot \pi$

$V = 13^2 \cdot \pi \cdot 25$
$= 13266.5 m^3$

$SA = \boxed{3102.32 m^2}$
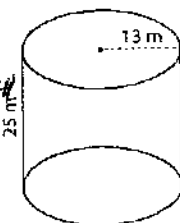
d)

$V = 42 \cdot 20 \cdot 37$
$= 31080 in^3$

$SA = \boxed{6268 in^2}$

$SA = \boxed{840} 42 \times 2$ 20

$\boxed{} 20 \times 2$ 37

$\boxed{} 37 \times 2$ 42
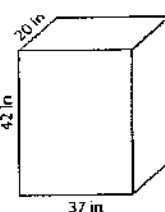
6) The walls of a square room are 15m high and 10m long. What is the area of the walls surrounding the room?

$15 \cdot 10 \cdot 4 = 600 m^2$

7) There are 6 windows in the room described above. Each one is 3m x 5m. What is the area of the room that needs paining?

$15 \cdot 6 = 90 m^2$

15

$\begin{array}{r} 600 \\ -90 \\ \hline 510 m^2 \end{array}$

8) If 1 liter of paint covers $4m^2$, how many liters do you need to buy?

$510 / 4 = 127.5 L$
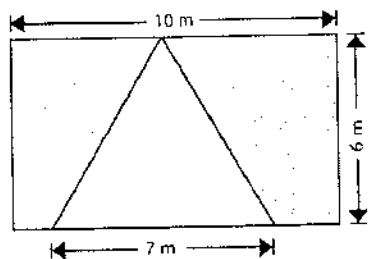
9) If cans of paint come with 3 liters of paint and cost $40/can, how much would it cost to paint the room?

$127.5 / 3 \quad 42.5 \sim 43 cans \boxed{\$1720}$

10) Find the area of the shaded region.

a)

$10 \cdot 6 - \frac{1}{2} \cdot 7 \cdot 6 =$
$60 - 21 = \boxed{39 m^2}$

b)
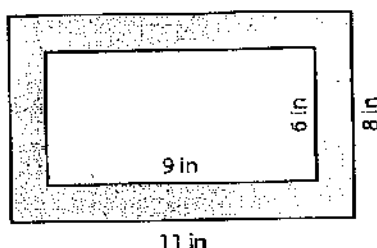
$11 \cdot 8 - 9 \cdot 6$
$88 - 54 = \boxed{34 in^2}$

1) Write each of the following polynomials in standard form. Then, identify the leading coefficient and name the polynomial.

② ② ④

⑧

Polynomial	Standard Form	Leading Coefficient	Name
$3x^2 + 2x^3$	$2x^3 + 3x^2$	2	cubic binomial
$1 - x + 3x^2$	$3x^2 - x + 1$	3	quadratic trinomial
x	x	1	linear monomial
$7x^4$	$7x^4$	7	quartic monomial.

2) Simplify each polynomial expression.

⑫

a) $5m^2 + 9m^3 + 5m^2 - 2m^4 - 2m^2 + 6m^4$

$4m^4 + 9m^3 + 8m^2$

b) $(ab^2 + 13b - 5a) - (4ab^2 + a + 3b)$

$-3ab^2 - 6a + 16b$

c) $(-x^2 + 9xy - 2y) + 3(-y + 2x^2 + 4xy)$

$-3y + 6x^2 + 12xy$

$5x^2 + 21xy - 5y$

d) $(a^2b + b^3 + ab^2) - 2(4a^2b - a^2b + b^2)$

$-8a^2b + 2a^2b - 2b^2$

$-5a^2b + b^3 + ab^2 - 2b^2$

3) What does F.O.I.L. stand for?

②

first, outer, inner last.

4) Classify the following polynomials by their degree and number of terms.

④

a) $x^2 + 3x - 2$ quadratic trinomial

b) 8^2 constant monomial

c) $7 + x$ linear binomial

d) $x^3 + 6^4x$ cubic binomial.

First	#	Last
Constant	0	*****
Linear	1	Monomial
Quadratic	2	Binomial
Cubic	3	Trinomial
Quartic	4	Polynomial with terms
Quintic	5	*****
6th, 7th, 8th ... Degree	6+	*****

$3x$ -7

$5x$	$15x^2$	$-35x$	
1	$3x$	-7	

$3x^2$ $4x$ 7

$2x$	$6x^3$	$8x^2$	$14x$
1	$3x^2$	$4x$	7

5) Multiply the following polynomials.

⑫

a) $-2x(x^2 + 4)$ $-2x^3 - 8x$

b) $(2x + 1)(3x^2 + 4x + 7)$
$6x^3 + 11x^2 + 18x + 7$

c) $(5x + 1)(3x - 7)$
$15x^2 - 32x - 7$

d) $(x - 2)(x - 2)$
$x^2 - 4x + 4$

6) Using $ax^2 + bx + c = 0$, then

②

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

⑫

7) Solve the following quadratics using any method.

$\frac{100}{36 + 64}$

a) $x^2 + 6x - 16 = 0$

$\frac{-6 \pm \sqrt{36 + 4 \cdot 16}}{2}$

$\frac{-6 \pm 10}{2} = \frac{4}{2}, \frac{-16}{2}$ $\boxed{2, -8}$

b) $2x^2 - 3x + 1 = 0$ $\frac{3 \pm \sqrt{9 - 4 \cdot 2}}{}$ $9 - 8$

$\frac{3 \pm 1}{2} = \frac{4}{2}, \frac{2}{2}$ $\boxed{2, 1}$

c) $x^2 + 3x + 2 = 0$ $\boxed{-1, -2}$

$9 - 8$

$\frac{-3 \pm \sqrt{9 - 4 \cdot 2}}{2}$

$\frac{-3 \pm 1}{2} = \frac{-2}{2}, \frac{-4}{2}$

d) $x^2 - 13x + 22 = 0$ $169 - 88 = 81$

$\frac{13 \pm \sqrt{169 - 4 \cdot 22}}{2} = \frac{13 \pm 9}{2}$

$\boxed{11, 2}$ $\frac{22}{2}, \frac{4}{2}$

8) For each of the following quadratics, find the vertex, the y-intercept, the zeros, and how it opens.

⑥

Functions	Min/Max	Vertex	Zeros	y-intercept
a) $y = -2x^2 - 6x$	max	$(-1.5, 4.5)$	$(0, 0)$ $(-3, 0)$	$(0, 0)$
b) $y = x^2 - 10x + 9$	min	$(5, -16)$	$(1, 0)$ $(9, 0)$	$(0, 9)$
c) $y = -3x^2 + x + 9$	max	$(-1.573, 0)$ $(1.907, 0)$		$(0, 9)$

$(0, 9)$

$(.167, 9.083)$

1)
a) What are 2 reasons a budget would fail? 1) _don't follow it_ , 2) _impulsive buys._

b) What could you do to stop yourself from doing those two things?
Cash-envelope system, don't window shop.

2) Rank the following types of investments in terms of their **risk**. (1 = low risk, 5 = high risk)

Cookie Jar	Individual Stocks	CD	Mutual Fund	Savings Account
①	⑤	②	④	②

3) Rank the following types of investments in terms of their **RETURN**. (1 = low return, 5 = high return)

Cookie Jar	Individual Stocks	CD	Mutual Fund	Savings Account
①	④	③	⑤	②

4) You make $20/hour and work 14 hours a day for 4 days each week. How much money will you make each month?

$20 \cdot 14 \cdot 4 \cdot 4 = \$4480$ or $\$4853.33$

5) You make $60,000 each year. If we estimate that you pay 25% of that in taxes, how much will you make each week?

$\begin{array}{r} 60\,000 \\ \times .25 \\ \hline 15000 \end{array}$

$\begin{array}{r} 60\,000 \\ -15\,000 \\ \hline 45\,000 \end{array} / 52 = \boxed{\$865.38/week}$

6) Fill in the chart below. Show your work on the side or on another piece of paper. Remember to round to the nearest cent.

Purchases	Cost	Discount	Sales Tax	Total Amount Paid
a) Highchair @ $44 4 packs of diapers @ $7.95	$44 + 4 \times 7.95$ $\$75.8$	5% 3.79	7% $72.01 \times .07$ $\$5.04$	$\$72.05$
b) Fan Belt, $80 Axle belt, $30.25	$\$110.25$	15% $\$16.54$	8% $93.71 \times .08$ $\$7.50$	$\$101.21$

7) If you spend $1000 on clothes each year, how much should you budget for clothes each month?

$\overline{} / 12 = \$83.33$

8) You make $15 per hour, work twenty hours a week, and have 15% deductions. How much will you earn in two weeks?

$15 \cdot 20 = 300$ $\begin{array}{r} \times 2 \\ \hline 600 \end{array}$ $600 \times .15 = 90$ $\begin{array}{r} 600 \\ -90 \\ \hline \$510 \end{array}$

9) In life, people will try to pull the wool over your eyes. Some people will lie to you, and others will try to cheat you. School has attempted to help prepare you to protect yourself against such villains. The first task is simply identifying when someone has tricked you. Have you been cheated on this test?

#6 b

No axle belt.

10) How much is left in each category?

	Spent:	June Budget	Funds available
1. House Expense	$863.00	$ 900.00	~~$37~~
2. Eating Out	$207.12	$ 200.00	$7.12
3. Farm Expense	$414.24	$ 550.00	$135.76

(2)

11) You put $10,000 into an investment earns 10% interest compounded annually. How much will you have at the end of 3 years?

Principle	Year	Interest 10%
10,000	1	1000
11,000	2	1100
~~12,100~~	3	1210
$13310		

(3)

12) Use the following information to calculate the total of your grocery list. Tax is 7%. Items without tax are marked.

Food	Taxed
$2.99 per lb of grapes	F
59¢ per box of mac and cheese	F
$5 for 3 PowerAde	X
$1.98 per loaf of bread	F
$7.28 per lb of ham	F
$5.35 per lb of cheese	F
$4.25 per gallon of milk	F
$3.68 for a box of cereal	F

(6)

a) Grocery list: 1 lb. of grapes, 1 lb. of ham, 2 boxes of mac and cheese
   2.99   7.28   .59   = $11.45

b) Grocery list: 3 lbs. of cheese, 1 gallon of milk, 1 box of cereal, 3 PowerAdes, 2 lbs. of ham
   5×1.07
   5.35   4.25   3.68   5.35   7.25 = $43.59

c) Grocery list: 1.5 lbs. of grapes, 2.5 lbs. of ham, 3 loafs of bread, 4 boxes of mac and cheese
   2.99   7.28   1.98   .59   = $30.99

13) Assume the person paid with a $50 bill. What would be their change for the previous 3 questions?

	$20	$10	$5	$1	Quarters	Dimes	Nickels	Pennies
a) 38.55	1	1	1	3	2	—	1	—
b) ~~~~	—	~~2~~	1	~~2~~ 1	~~4~~	1	~~5~~	~~2~~ 1
c) 19.01	—	1	1	4	0	0	0	1

(6)
6.1

1) Match the following forms with their definitions

_C_   W-2   A. form used by employees to inform employers of exemptions

_A_   W-4   B. form used to report income to the state

_D_   1040   C. form used by employers to report income paid to an employee
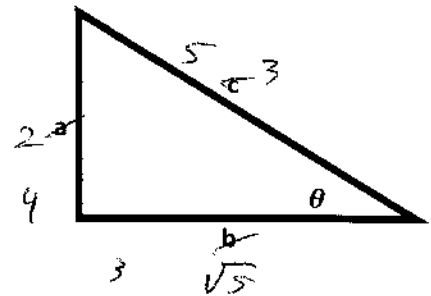
_B_   ND-1   D. form used to report income to the IRS

2) Using the triangle on the right and the values given, fill in the following chart.

Trig Function	a) $a = 2, c = 3$	b) $a = 4, b = 3$
$\sin\theta$	2/3	4/5
$\cos\theta$	$\sqrt{5}/3$	3/5
$\tan\theta$	$2/\sqrt{5}$	4/3
$\csc\theta$	3/2	5/4
$\sec\theta$	$3/\sqrt{5}$	5/3
$\cot\theta$	$\sqrt{5}/2$	4/5 3/4

3) For the triangle in question 2, what is the missing angle?

a) $42°$ b) $53°$

1) A boy flying a kite lets out 200 feet of string which makes an angle of 40°with the ground. Assuming that the string is straight, how high above the ground is the kite?

$sin(40) = \frac{x}{200}$ $x = 128.6 ft$

2)

Using the triangle on the right and the values given, find all the missing sides and angles. in the following chart.
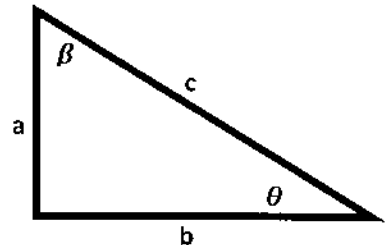
	Given:	θ	β	a	b	c
		$90-15$	$90-45$			
	a)	45°	$45°$	7	7	9.9
	b)	$75°$	15°	11.2	3	11.6

3) A ladder leans against a building. The top of the ladder reaches a point on the building which is 18 feet above the ground. The foot of the ladder is 7 feet from the building. Find the measure of the angle which the ladder makes with the level ground.
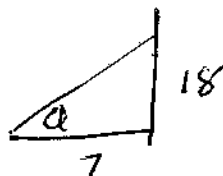
$tan(\alpha) = \frac{18}{7}$

$\alpha = tan^{-1}\left(\frac{18}{7}\right)$

$= \boxed{69°}$

2a) $sin(45) = \frac{7}{c}$

$c = \frac{7}{sin 45}$

$= 9.9$

$tan(45) = \frac{b}{7}$

$b = 7$

2b) $sin(15) = \frac{3}{c}$

$c = \frac{3}{sin(15)} = 11.6$

$tan(75) = \frac{a}{3}$

$a = 11.2$

1) Calculate the area and perimeter for each of the following shapes.

a)

6 m

4 m 2Y 2 6.28
$\frac{1}{2}\pi \cdot 2^2$

6 m

$A = 30.28 m^2$
$P = 22.28 m$

$\frac{1}{2}\pi \cdot 4 = 6.28$

b)

$12 ft^2$ 7.21 4 ft

6 ft 6 ft

6 ft

9 ft 9 ft

$162 ft^2$

18 ft
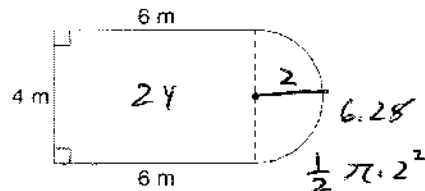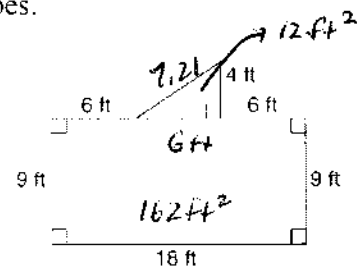
$A = 174 ft^2$ $P = 59.21 ft.$

2) Fill in the following chart:

	Perimeter	Area	Volume
Circle	$C = d \cdot \pi$	πr^2	$\frac{4}{3}\pi r^3$ or $\pi r^2 h$
Rectangle	✗ Add all sides	$\ell \cdot w$	$\ell \cdot w \cdot h$
Triangle	/	$\frac{1}{2} \cdot b \cdot h$	$\frac{1}{2} \cdot b \cdot h \cdot H$
Trapezoid	✓	$\frac{1}{2}(b_1 + b_2) \cdot h$	**************

3) Find the area of the shaded region.

a)

12 ft 7 ft 10 ft

6 ft

120
- 21
94 ft²

b)

6 in

72
Ø 28.26/2

12 in

3

72
- 14.13
57.87 in²
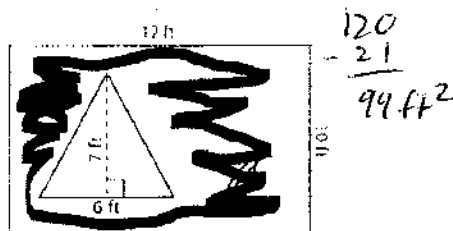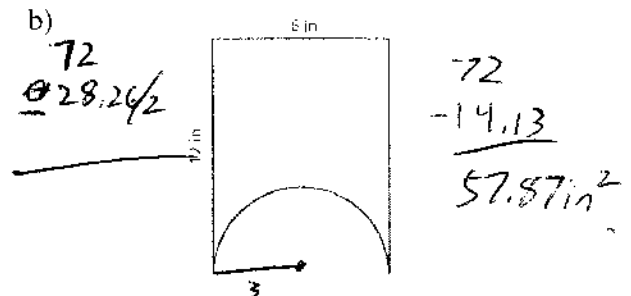
4) Calculate the volume of the following shapes.

a)

10 cm

16 cm
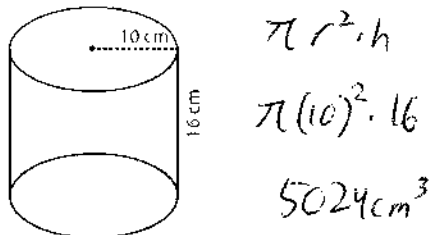
$\pi r^2 \cdot h$
$\pi (10)^2 \cdot 16$
$5024 cm^3$

b)

4 in

16 in

9 in

$\ell \cdot w \cdot h$
$576 in^3.$
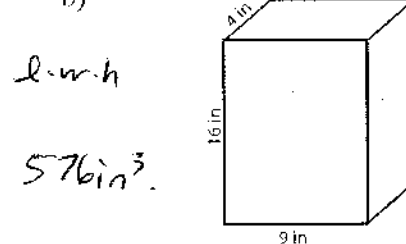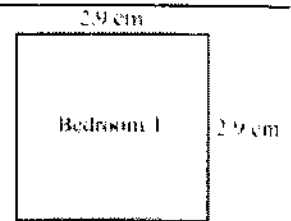
1) Given the following bedroom and dimensions, use the scale 1:200 to find the actual dimensions.

$$\frac{1}{200} = \frac{2.9}{x}$$

$x = 580\,cm \sim 5.8m.$

```
                    2.9 cm
  ┌──────────────────┐
  │                  │
  │   Bedroom 1      │ 2.9 cm
  │                  │
  └──────────────────┘
```

2) The walls of the room above are 8m high. What is the area of the walls surrounding the room?

$5.8 \times 8 = 46.4\,m^2 \times 4 = \boxed{185.6m^2}$

3) There are 2 windows in the room. Each one is 2m x 3m. What is the area of the room that needs paining?

$2 \cdot 3 = 6\,m^2$ 46.4×4 185.6

$x\dfrac{2}{12\,m^2}$ $\dfrac{-12}{\boxed{34.4m^2}}$ $\dfrac{-12}{173.6\,m^2}$

4) If 1 liter of paint covers $10m^2$, how many liters do you need to buy?

$\dfrac{34.4}{10} = 3.44\,L$ $173.6/10 = \boxed{17.36L}$

5) If cans of paint come with 2 liters of paint and cost \$40/can, how much would it cost to paint the room?

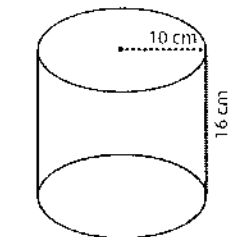~~2 tons~~ $x\,2\,x9$ 9 cans.

~~80~~ 360

6) Calculate the surface area of the following shapes.

a)

$d\pi$ 20π

$\boxed{1004.8}$ 16

$1632.8\,cm^2$

$\pi(10)^2$
$x\,2$
$628cm^2$
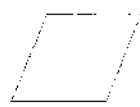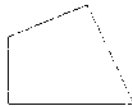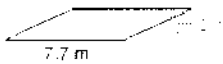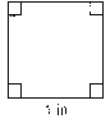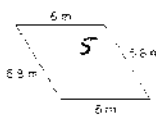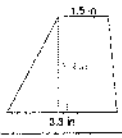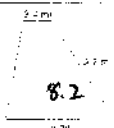
b)

$\boxed{36}\,4$ $x\,2$ $= 72$

$\boxed{64}\,16$ $x\,2$ $= 128$

$\boxed{144}\,16$ $x2$ $= 288$

$\boxed{488m^2}$

1) Classify the following as a quadrilateral, parallelogram, rhombus, trapezoid, rectangle, or square.

	parallelogram		trapezoid
	rectangle		parallelogram / rhombus ⓕⓢ *cannot see the lines.
	square		quadrilateral

2) Calculate the area for each of the following quadrilaterals.

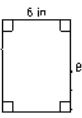|			
$2 \cdot 7.7$ $15.4m^2$ 7.7 m		1 in 1 in	$1in^2$
6 in 8 in	$6 \cdot 8 = $ $\boxed{48in^2}$	6 m 5 8.9 m 6 m	$5 \cdot 6 = 30m^2$
1.5 in 3.3 in	$\frac{1}{2}(1.5+3.3)2.9$ $6.96in^2$	2.4 m 8.2	$\frac{1}{2}(2.4+9)8.2$ $46.74m^2$

3) Calculate the area of the following non-right triangles.

a) A triangle with two sides that measure 5ft and 3 ft with a n included angle of 40°.

$$\frac{1}{2} \cdot 5 \cdot 3 \, sin(40) = 4.82ft^2$$

b)

4 in 7 in 96°
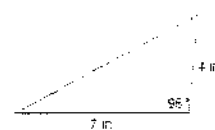
$$\frac{1}{2} \cdot 4 \cdot 7 \cdot sin(96)$$

$$13.92in^2$$

4) Calculate the surface area of the following shapes.
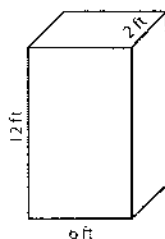
a)

2 ft 12 ft 6 ft

$\boxed{\dfrac{12}{24}}\,2$ $\times 2$

$\boxed{\dfrac{6}{12}}\,2$ $\times 2$

$\boxed{\dfrac{12}{72}}\,6$ $\times 2$

$\boxed{216 ft^2}$

b)

5 cm 4 cm 5 cm 6 cm 11 cm

$\dfrac{12}{4}$ $\times 2$

6

$\boxed{\dfrac{55}{\,}}\,5$ $\times 2$

$\boxed{\dfrac{66}{\,}}\,6$
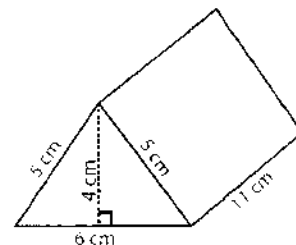
$\underline{200cm^2}$

1) Put the following polynomials in standard form and identify the leading coefficient.

a) $7x^3 + x - 5x^6$

$-5x^6 + 7x^3 + x$

L.C. -5

b) $5x^2 - x^5 + 8 - 3x^3 + 2x$

$-x^5 - 3x^3 + 5x^2 + 2x + 8$

L.C. -1

2) Multiply the following expressions.

a) $(x - 1)(x + 3)$

$x^2 + 2x - 3$

b) $(x + 2)(x^2 - 2x + 3)$

$x^3 - x + 6$

	x^2	$-2x$	3
x	x^3	$-2x^2$	$3x$
2	$2x^2$	$-4x$	6

3) Multiply the following expressions.

a) $x(x + 2)$

$x^2 + 2x$

b) $x^2(x^3 - 5x)$

$x^5 - 5x^3$

4) What does F.O.I.L. stand for?

First, Outer, inner, last.

5) Classify the following polynomials by their degree and number of terms.

a) $x^2 + 3x - 2$

quadratic   trinomial

b) 8^2

constant   monomial.

c) $7 + x$

linear   binomial

d) $x^3 + 6^4 x$

cubic   binomial.

1) What does it mean to budget?

plan to spend your money.

2) You make $13/hour and work 8 hours a day for 3 days each week. How much money will you make each year?

$13 \times 8 \times 3 \times 52 = \$16,224$

3) You make $40,000 each year. If we estimate that you pay 20% of that in taxes, how much will you make each month?

$40,000 \times .2 = 8000$

-8000

$32,000 / 12 = \$2666.67$

4) Fill in the chart below. Show your work on the side or on another piece of paper. Remember to round to the nearest cent.

	Purchases	Cost	Sales Tax	Total Amount Paid
1)	2 Jeans @ $20.98 4 pr. Socks @ $4.50	59.96	5% $3	$ 62.96
2)	Boots @ $60 Jacket @ $50.90	110.9	6% 6.65	$ 117.55

5) If you spend $400 on clothes each year, how much should you budget for clothes each <u>month?</u>

$400 / 12 = \$33.33$

6) You make $2,345 each month. ~~Given the following budget chart, find what percent of your income you spent on each.~~

	Spent:	June Budget	Funds available
1. Educational Expense	$ 281.40	$ 280.00	$ -1.4
2. Entertainment Expense	$ 351.75	$ 360.00	8.25
3. Electricity	$ 586.25	$ 550.00	-36.25
4. House Expense	$ 469.00	$ 425.00	-44
5. Eating Out	$ 164.15	$ 165.00	0.85
6. Farm Expense	$ 304.85	$ 306.00	1.15
7. Food Expense	$ 187.60	$ 188.00	0.40

1)
a) What is the number one reason for divorces in young couples? *Financial Issues.*
b) Why is that the number one reason? *Affects both. Fight over it.*
c) What could you do to ensure it doesn't happen?
   budget.

2) You make $10 per hour, work thirty hours a week, and have 10% deductions. How much will she earn in two weeks?

$$10 \times 30 \times 2 = 600$$
$$\begin{array}{r} \times .1 \\ \hline 60 \end{array}$$
$$\begin{array}{r} 600 \\ -60 \\ \hline \end{array}$$
$$\boxed{\$540}$$

3) You put $1000 into an investment earns 8% interest compounded annually. How much will you have at the end of 3 years?

Principle	Year	Interest 8%
1000	1	80
1080	2	86.4
1166.4	3	93.31
$\boxed{\$1259.71}$		

4) Fill in the chart below. Show your work on the side or on another piece of paper. Remember to round to the nearest cent.

	Purchases	Cost	Discount	Sales Tax	Total Amount Paid
1)	2 Towels @ $15 LOTR @ $20	50	10% 5	5% 45×.05 2.25	$\boxed{\$47.25}$
2)	Table @ $45.97 Chair @ $34.56	80.53	30% 24.16	6% 56.37 ×.06	$59.75

3.38

5) Use the following information to answer the questions below.

$2.99 per lb of grapes
59¢ per box of mac and cheese
$5 for 3 PowerAde
$1.98 per loaf of bread
$7.28 per lb of ham
$5.35 per lb of cheese
$4.25 per gallon of milk
$3.68 for a box of cereal

$34.41   ×2.99   × 7.28   × .59

a) Grocery list: 2 lb. of grapes, 3.5 lb. of ham, 5 boxes of mac and cheese   +10   × 7.28
b) Grocery list: 1 lbs. of cheese, 4 gallons of milk, 2 boxes of cereal, 6 Powerade's, 1 lbs. of ham $\boxed{\$46.99}$
5.35   4.25   3.68
c) Grocery list: 1.5 lbs. of grapes, 2 loafs of bread, 1 boxes of mac and cheese

× 2.99   × 1.98   × .59 $\boxed{\$9.04}$