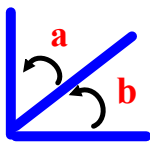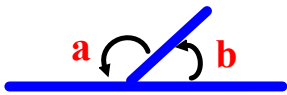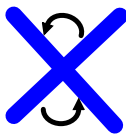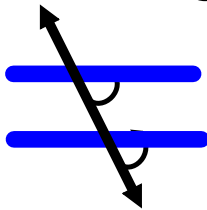## Let's Sum It Up

Rule - Complimentary angles a & b add up to 90º

Rule - Supplimentary angles a & b add up to 180º

Rule - Vertically Opposite angles are equal

Rule - Corresponding angles are equal
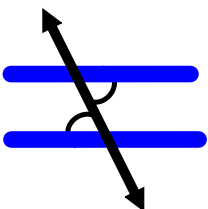
Rule - Alternate Interior angles are equal
Alternate Exterior angles are equal
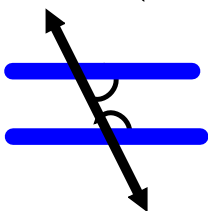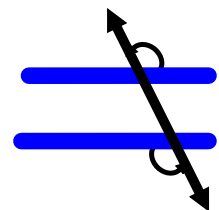
Rule - Co-interior angles add up to 180°
Co-Exterior angles add up to 180°
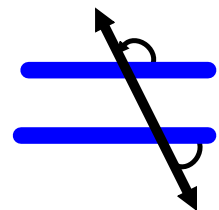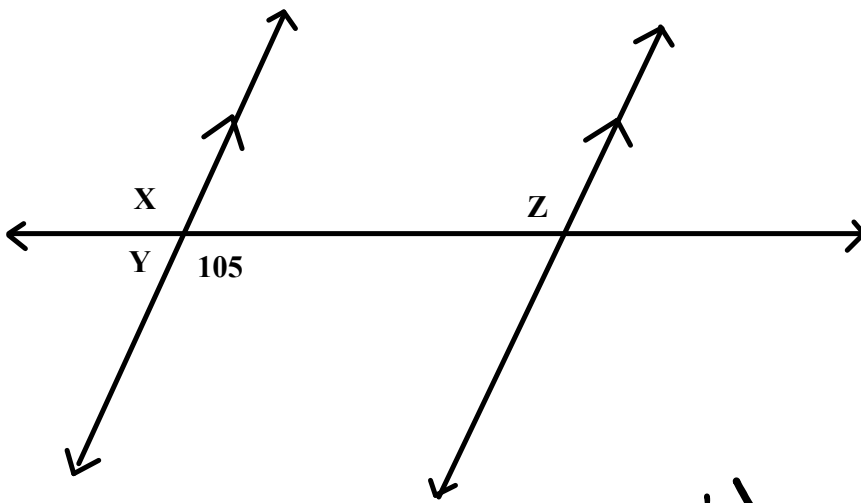
$x = 105°$ (vertically opposite)

$y = 180° - 105°$ } (supplementary)

$y = 75°$

$z = 105°$ (alternate interior)

Solve for x and y:

125°

3y - 1

128°

x + 23

2y + 41

125°

52
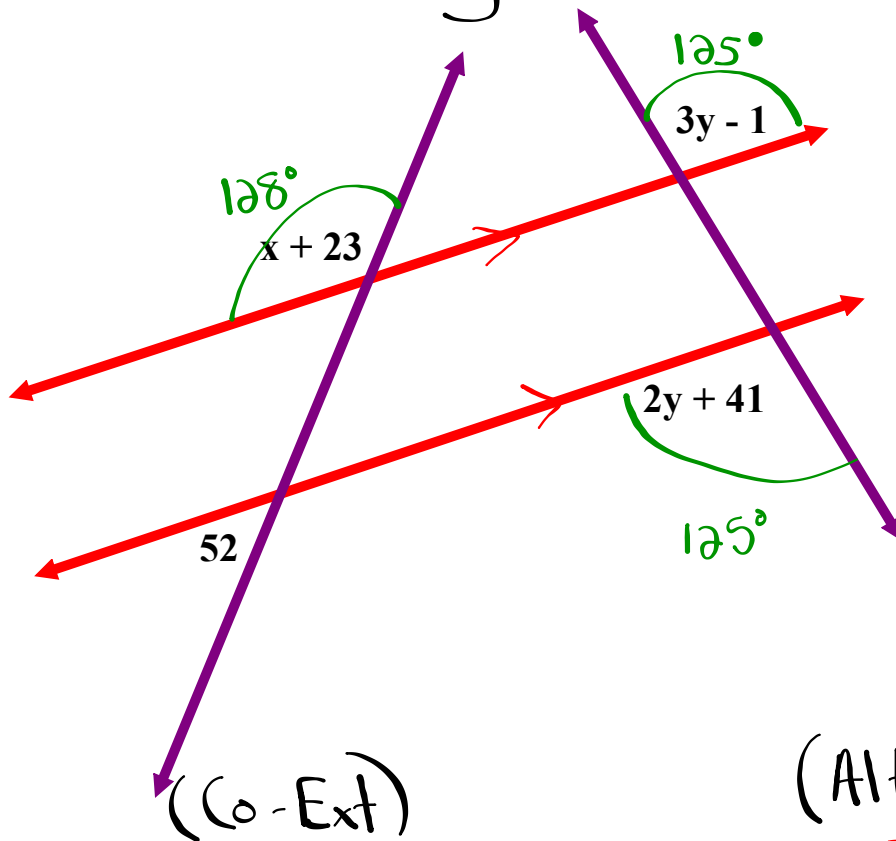
(Co-Ext)

$$x + 23° + 52° = 180°$$
$$x + 75° = 180°$$ (−75°)
$$x = 105°$$

(Alt-Ext)

$$3y - 1° = 2y + 41°$$ (−2y)
$$y - 1 = 41$$ (+1)
$$y = 42°$$

From his line of sight 7m high, a life guard sees ~~elevation~~
two people in distress. The angles of ~~depression~~ to
the individuals are 50 and 36 degrees respectively.
What is the distance between the two people in distress?

Solve for x:
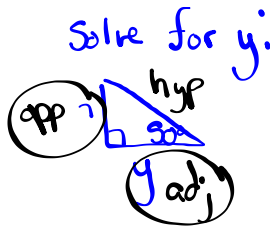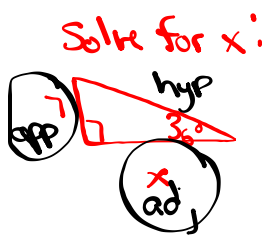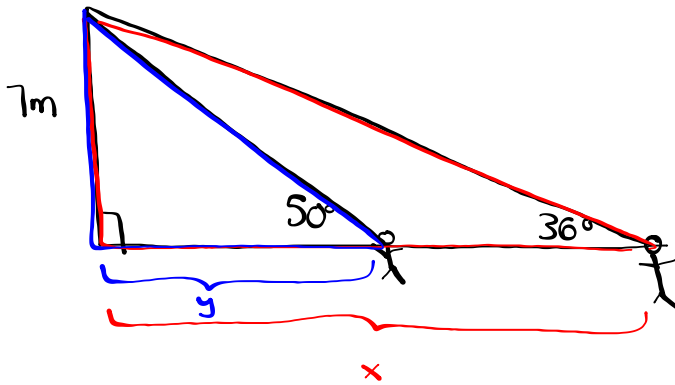
$$\tan\theta = \frac{o}{a}$$

$$\tan 36° = \frac{7}{x}$$

$$0.7265 = \frac{7}{x}$$

$$\frac{0.7265x}{0.7265} = \frac{7}{0.7265}$$

$$x = 9.64 \, m$$

Solve for y:

$$\tan\theta = \frac{o}{a}$$

$$\tan 50° = \frac{7}{y}$$

$$1.1918 = \frac{7}{y}$$

$$\frac{1.1918y}{1.1918} = \frac{7}{1.1918}$$

$$y = 5.87 \, m$$

Let z = distance between swimmers

$$z = x - y$$
$$z = 9.64 - 5.87$$
$$z = 3.77m$$

a) Using the proper trig ratio, find theta.
b) Find the missing side x.
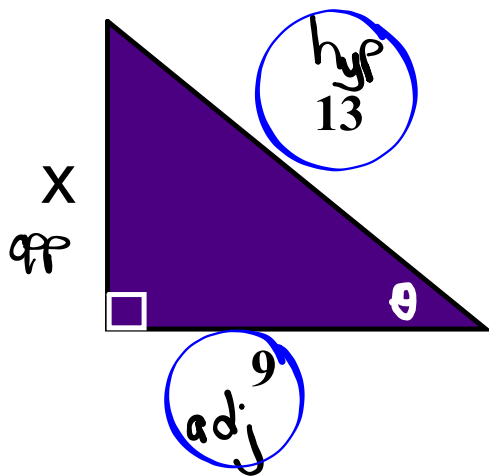
$$\sin\theta = \frac{o}{h}$$

$$\cos\theta = \frac{a}{h}$$

$$\tan\theta = \frac{o}{a}$$

a) $\cos\theta = \frac{a}{h}$

$\cos\theta = \frac{9}{13}$

$\cos\theta = 0.6923$

$\theta = \cos^{-1}(0.6923)$

$\theta = 46°$

b) $a^2 + b^2 = c^2$

$(9)^2 + x^2 = (13)^2$

$81 + x^2 = 169$ -81 -81

$x^2 = 88$

$x = 9.4$

On a specific date, the selling rate for China's yaun compared to the Canadian dollar is 0.162600 and the buying rate is 0.127100. How many yaun will you receive for $500.00 CAD?

1. Let x = ?
2. Set up ratio (words)
3. Set up proportion
4. Solve

Let x = # of yaun

$$\frac{1}{selling} = \frac{Foriegn \; (Yaun)}{Domestic \; (CAD)}$$

$$\frac{1}{0.1626} \; \diagup\hspace{-0.5em}\diagdown \; \frac{x}{500}$$

$$\frac{0.1626x}{0.1626} = \frac{500}{0.1626}$$

$$\boxed{X = 3075.03 \; yaun}$$

On the same day as the previous example. If, after purchasing your yaun, you decided not to go to China and sold the yaun back to the bank, how much would you lose?

1. Let x = ?
2. Set up ratio (words)
3. Set up proportion
4. Solve

Let x = CAD

$$\frac{1}{buying} = \frac{Foreign \; (Yaun)}{Domestic \; (CAD)}$$

$$\frac{1}{0.1271} \; \diagup\hspace{-0.5em}\diagdown \; \frac{3075.03}{x}$$

$$X = \$390.84 \; CAD$$

$$\begin{array}{r} \$500.00 \\ -390.84 \\ \hline \$109.16 \end{array}$$

You would lose $109.16.

A chainsaw's engine uses a mixture of 33 L of gas to 2 L of oil. How much oil must you mix with 15 L of gas?

Let x = oil

$$\frac{gas}{oil}$$

$$\frac{33L}{2L} \diagdown \frac{15L}{x}$$

$$\frac{33x}{33} = \frac{30}{33}$$

$$x = 0.\overline{90}$$

$$x = 0.91 L$$

Recipe #2

2 cups of concentrate
5 cups of water

You want to make 10 cups of Recipe #2. How many cups of concentrate and water will you need?

Given:

concentrate = 2
water   = 5
total   = 7

(i) Find the amount of concentrate

Let x = concentrate

$$\frac{concentrate}{total}$$

$$\frac{2}{7} = \frac{x}{10}$$

$$\frac{7x}{7} = \frac{20}{7}$$

$$x = 2.86 \text{ cups of concentrate}$$

(ii) Find the amount of water

$$10 - 2.86$$

$$= 7.14 \text{ cups of water}$$

3. Jonathan earns $18.50/hour for regular hours of work. Jonathan works a 40 hour work week, and is paid time and a half for overtime.

a)What is his overtime rate of pay?

b) If he works a 45 hour work week, what is his gross pay?

2. You worked a four-hour shift as a server and your customer bills totalled $2500.00 before tips. Your rate of pay is $10.00/h.

a) How much did you make before tips during the four hours?

b) If all of your customers tipped you 10%, how much did you make in total during your 4 hour shift?

You need to calculate the Canada Pension Plan deduction for John, whose is paid weekly with a contribution rate of 4.95% of any gross earnings above $3500.00. If John's gross pay is $1275.00/week, calculate his CPP contributions.

If John pays union dues of $35 and pension dues of $150, what are his total before tax deductions.

Calculate John's taxable gross.

Calculate John's Federal and Provincial tax contributions if he uses claim code 2.

Bill's bank offers a simple interest rate of 4% per annum. How much interest would Bill earn on his investment of $3000 after 9 months.

Calculate the Interest earned on an initial investment of $8000.00 if Interest is paid at 3.75% per annum, compounded semi-annually for three years.

Conversions

a) 39 mi = _____ km

b) 42 ft = _____ m

Find the volume and surface area

168 ft

6 ft

15
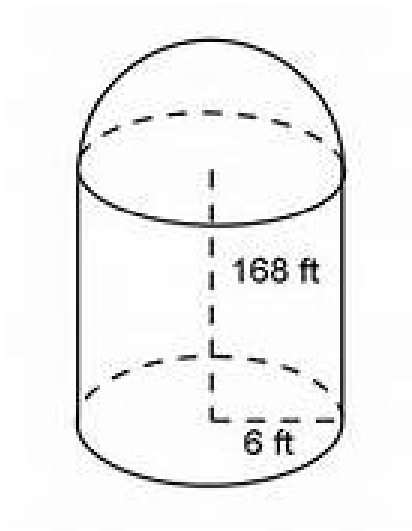
Geometry Measurement and Finance   Exam Review:

Answers:

ew... Day 1 Unit Pricing and Currency Exchange

Multiple Choice:

Question	Answer	Question	Answer	Question	Answer	Question	Answer	Question	Answer
1	C	5	A	9	C	13	D	17	C
2	B	6	D	10	B	14	B		
3	A	7	C	11	A	15	C		
4	A	8	C	12	A	16	A		

Short Answers:

Question	Answer	Question	Answer	Question	Answer
1	$1931.30	2	395.20	3a) less money	b) They have more

... Day 2 Earning an Income

Multiple Choice:

Question	Answer	Question	Answer	Question	Answer	Question	Answer
1	D	3	D	5	B	7	A
2	A	4	C	6	D	8	B

Short Answers:

Question	Answer	Question	Answer	Question	Answer	Question	Answer	Question	Answer
1a)	$343.44	4a)	$4646.25	5b)	biweekly	6) paid	/item	8	$2190
1b)	4.25 Hrs	4b)	$88.59	5c)	$39650	6) paid	$/hour		
2	$54.47	4c)	$1212.50	5d)	$306.17	6) paid	Set $		
3	$389.40	5a)	$1525	5e)	$31689.58	7	$107.70		

w... Day 3 Financial Services

Question	Answer	Question	Answer	Question	Answer			
1	$1513.64	5	$3444.35	7c	$11265.68			
2	$13.60	6	$3312.73	7d	$4225.01			
3	$5403.27	7a	$6050.36	8	$1290.59			
4	$1512.88	7b	$14898.46	9	$5.65			

10. Brianna's Credit Card:

a. APR 10

b. $4,311.08

c. 4989 5333 3828 2448

d. $5,000.00

e. $50.00

f. $688.92

g. MAR 28

h. $1,000.00

i. $4,311.08

j. $1,000.00

... Day 4 Systems of Measurement and Conversions along with
Mass, Temperature and Volume

Multiple Choice

Question	Answer	Question	Answer	Question	Answer	Question	Answer
1	D	5	A	9	D	13	B
2	C	6	C	10	C		
3	A	7	B	11	A		
4	C	8	B	12	D		

Day 4(continued)

Short Answer

Question	Answer	Question	Answer	Question	Answer	Question	Answer	Question	
1	$120m^3$	3c	186	4c	3.12ft	5c	$2016cm^3$		
2	$464ft^2$	3d	$211.41	4d	1.1 mi	6	$1130.4cm^2$		
3a	25.4m	4a	1.1m	5a	$351.7in^3$	7	W=34cm	H=1cm	
3b	$645.2cm^2$	4b	3.2km	5b	$1766.3cm^3$		L=58cm	$V=1972cm^3$	

ew... Day 5 Angles, Parallel Lines & Trigonometry

Multiple Choice

Question	Answer	Question	Answer
1	D	5	C
2	D	6	D
3	B	7	B
4	B	8	C

Short Answer

Question	Answer	Question	Answer	Question	Answer	Question	Answer	Question	Answer
1	12.1	5	2.4m	9a	$55°$	9e		11	B=$22°$
2	1.15	6	$29°$	9b		9f		12	77.2
3	complementary	7	$69.5°$	9c		10	34.8	13	153.4
4	$31°$	8	$18.5°$	9d		11	A=$30°$		

9 b) opposite
c) corresponding
d) alternate interior
e) corresponding
f) supplementary