

MR. SILVAGGIO'S ULTIMATE AND EXHAUSTIVE EQAO & EXAM REVIEW FOR MPM1D0

Textbook Pages

- Pages 178-179 #5, 13, 15, 16, 18, 19, 21, 22
- Pages 356-357 #1, 2 (when the question asks you to find "the root" of the equation, they just want you to solve the equation for the indicated variable), 4, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18
- Pages 520-521 #1, 2, 8, 9, 10, 11, 12, 13ab, 15, 16a

Extra Practice...and a lot of it!

PART A

1. Simplify, if possible, then evaluate.

a) $\frac{5}{11} - \frac{3}{22}$ b) $\frac{4}{15} + \frac{17}{45}$ c) $\frac{5}{9} \times \frac{18}{25}$ d) $\frac{11}{6} \cdot \frac{18}{55}$ e) $1\frac{3}{8} - 2\frac{3}{4}$ f) $3\frac{4}{7} + 4\frac{1}{6}$

g) $\frac{26}{35} \times \frac{63}{52}$ h) $-\frac{16}{21} \times \frac{35}{48}$ i) $\frac{15}{16} \div \frac{25}{32}$ j) $\frac{32}{35} \div \frac{48}{85}$ k) $\frac{34}{35} \div \frac{51}{70}$ l) $\frac{36}{-35} \div \frac{-108}{70}$

2. Evaluate.

a) $\frac{3 + 4 \times 6}{51 - 6 \times 7}$ b) $\frac{4(-1) + 7(2) - 8}{8(7) - 6(9) - 1}$ c) $\frac{(-1)(5 - 3)^3}{-5(-4) + 6(-3)}$ d) $-6 - 3(4) - 5(-2) - 2(1 - 3)^3$

3. For a week prior to their final examination, a group of friends collect data on time spent studying and spent watching TV to compare with their examination scores.

Hours Studied	Hours Watching TV	Examination Score (%)
10	8	72
11	7	67
15	4	81
14	3	93
8	9	54
5	10	66

- Identify the independent and the dependent variable in each situation.
- Create a scatter plot of hours studying versus examination score.
- Create a similar scatter plot for the hours spent watching TV.

- d) Describe the relationship between the data in each situation.
- e) Estimate the mark for a student who studied 12 hours.
- f) Estimate the number of hours spent watching TV for a student who scored 60% on his final exam.
- g) Describe your techniques used in e) and f).
4. Draw a distance-time graph for this scenario, then answer the questions that follow:

A canoeist leaves the deck, paddles at a steady pace for 15 minutes. She speeds for the next 5 minutes before stopping for a 10 minute rest. She returns home at a slow relaxing pace and takes twice as long as before.

- a) How long did the trip take?
- b) What does the negative speed represent in this situation?
- c) How is the speed of the canoeist related to the shape of the distance-time graph?

ANSWERS:

1.a) $\frac{7}{22}$ b) $\frac{29}{45}$ c) $\frac{2}{5}$ d) $\frac{3}{5}$ e) $\frac{-11}{8}$ f) $\frac{325}{42}$ g) $\frac{9}{10}$ h) $\frac{-5}{9}$ i) $\frac{6}{5}$ j) $\frac{34}{21}$ k) $\frac{4}{3}$ l) $\frac{2}{3}$

2.a) 3 b) 2 c) -4 d) 8

3.a) independent: hours spent studying, dependent: exam score; independent: hours watching TV, dependent: exam score d) as hours of studying increase, the exam score increases (positive correlation); as hours watching TV increase, exam score decreases (negative correlation) e) near 80% f) near 9 hrs. g) extrapolation for e (outside the range of data); interpolation for f (within the range of data)

4.a) 70 min. b) the canoeist is approaching home (the distance from home is decreasing) c) the greater the speed, the steeper the graph

PART B

1. Evaluate each of the following powers. NO DECIMAL ANSWERS are permitted.

a) 5^3 b) $(-2)^4$ c) -2^4 d) $(-75)^0$ e) $\left(\frac{3}{4}\right)^3$ f) $\frac{5^2}{4}$ g) 1.2^2

2. Express as a single power using the exponent laws(DO NOT EVALUATE).

a) $4^2 \times 4^5$ b) $6^{14} \div 6^4$ c) $[(-3)^2]^8$ d) $(5^2)^3 \times (5^5)^4$ e) $\frac{3^2 \times 3^{15}}{(3^3)^4}$

3. Simplify each of the following using the exponent laws.

a) $(m^3)^2$ b) $(x^2y^4)^5$ c) $(a^3b^4c^2)^4$ d) $(3x^2)^4$ e) $\left(\frac{1}{3}x^4\right)^3$ f) $a^2b^3 \times ab^8$

g) $\frac{2ab^2 \times 3a^3b^3}{(4ab^2)^2}$ h) $(m^4n^3)^2 \cdot mn^2$ i) $\frac{32ab^2 - 24a^3b^3 + 42a^2b}{6ab}$

4. Evaluate each of the following expressions using the exponent laws. Express your answer as a rational number in SIMPLEST FORM. No decimal answers are permitted.

a) $\frac{2-2^2}{3^3-3^2}$ b) $\frac{4-2^3}{3-3^2}$ c) $\frac{(-3)^0}{2^0-2^2}$

5. Identify the numerical coefficient for each term:

a) $4m^2$ b) $-3x$ c) $-x^2yz$ d) $\frac{4}{3}a$

6. Classify each polynomial by the number of terms:

a) $x^2 - 4x + 5$ b) $1 + y$ c) $7x^2yz^3$ d) -10

7. State the constant term for each polynomial in question 6.

8. State the degree of each polynomial expression:

a) $6x^4$ b) $10x^2yz^5$ c) $1 - 4x + 8x^2$ d) 7 e) $3m^2n^7 - 10m^8$

10. Simplify each of the following expressions by collecting LIKE TERMS:

a) $2x + 3 - 5x + 10$ b) $3a^2 + 5a - a^2 - 8a$

c) $3x^2 - 4xy + 5y^2 - 6 + 3x^2 + 4xy - 2$ d) $(2x + 1) + (5x - 18)$

e) $(7b^2 - 8b + 10) + (-2b^2 - 3b - 2)$ f) $(2x - 5) - (8x - 15)$

g) $(7y^2 - 9y + 3) - (-10y^2 - 6y + 1)$

11. Expand each of the following expressions by applying the DISTRIBUTION LAW:

a) $6(x + 2y)$ b) $-2(x^2 - 4x + 5)$ c) $-4a(2a^2 - 3b)$

d) $3b(b^2 + 6b - 10)$ e) $11mn^2(-2m + 3n)$ f) $13s^2t^2(4st^2 - 3s^2t^2)$

g) $\frac{2}{3}(6x - 9)$

h) $\frac{4}{7}x^2(14x^3 - 1)$

12. Expand and simplify each of the following polynomial expressions:

a) $2(x - 3) + 5(7 - 3x)$ b) $3(x + 1) - 4(x + 3)$ c) $2x(x + y) + 2y(x - y)$

d) $-3(2x - 6) - (8 - 7x)$ e) $4(2x - 5) + 3(x^2 - 3x) - 2x(x - 1)$

f) $2[9 - 3(x + 3) + 10x]$ g) $\frac{7}{2}(2x - 6) - 3(4x - 3)$

ANSWERS:

1.a) 125 b) 16 c) -16 d) 1 e) $\frac{27}{64}$ f) $\frac{25}{4}$ g) 1.44 2.a) 4^7 b) 6^{10} c) $(-3)^{16}$ d) 5^{26} e) 3^5

3.a) m^6 b) $x^{10}y^{20}$ c) $a^{12}b^{16}c^8$ d) $81x^8$ e) $\frac{1}{27}x^{12}$ f) a^3b^{11} g) $\frac{3a^2b}{8}$ h) m^9n^8 4.a) $\frac{-1}{9}$ b) $\frac{2}{3}$ c)

$\frac{-1}{3}$ 5.a) 4 b) -3 c) -1 d) $\frac{4}{3}$ 6.a) trinomial b) binomial c) monomial d) monomial 7.a) 5 b) 1 c) none d) -10 8.a) 4 b) 8 c) 2

d) 0 e) 9 10.a) $-3x + 13$ b) $2a^2 - 3a$ c) $6x^2 + 5y^2 - 8$ d) $7x - 17$ e) $5b^2 - 11b + 8$ f) $-6x + 10$ g) $17y^2 - 3y + 2$ 11.a) $6x + 12y$ b) $-2x^2 + 8x - 10$ c) $-8a^3 + 12ab$ d) $3b^3 + 18b^2 - 30b$ e)

$-22m^2n^2 + 33mn^3$ f) $52s^3t^4 - 39s^4t^4$ g) $4x - 6$ h) $8x^5 - \frac{4}{7}x^2$ 12.a) $-13x + 29$ b) $-x - 11$ c) $2x^2 + 4xy - 2y^2$ d) $x + 10$ e) $x^2 + x - 20$ f) $14x$ g) $-5x - 12$

PART C

1. Solve. Express your answers as rational numbers in SIMPLEST FORM, if necessary.

Formally check your solutions for (d), (g), and (l).

a) $x + 9 = 5$ b) $-2y = 16$ c) $2x - 1 = 21$ d) $6(x - 4) = 42$

e) $\frac{x - 4}{5} = 9$ f) $-4(x + 3) = 12$ g) $5x + 8 - 3x = 18$ h) $\frac{1}{2}(x + 7) = -4$

i) $\frac{4}{5}(x - 3) = \frac{2}{5}(x + 6)$ j) $\frac{x + 1}{2} = 6$ k) $\frac{2x - 3}{4} = \frac{x + 8}{9}$ l) $6x + 9 = 3x + 6$

FULL ALGEBRAIC SOLUTIONS ARE REQUIRED FOR #2 - 11.

2. Three times the sum of a number and five gives a result of twenty-one. Find the number.

3. A number decreased by 8 gives a result of -6. Find the number.

4. One integer is 2 less than a second integer. The sum of the two integers is -16 . Find the integers.
5. A 5.8 GigaHertz phone has three times the range of a 2.4 GigaHertz phone. If a 2.4 GigaHertz phone has a range of 16 m, what is the range of the 5.8 GigaHertz phone?
6. The price difference between a regular Coke and a PC Cola is $\$0.85$, Coke being the more expensive brand. To purchase 12 cans of Coke and 10 cans of PC Cola would cost $\$19$.
What is the price of one can of PC Cola?
7. The length of a rectangle is 9 cm longer than its width. If the total perimeter is 250 cm, determine the dimensions of the rectangle.
8. Dave has 8 more dimes than nickels in his pocket. In total, the coins in his pocket are worth $\$3.05$. How many of each type of coin does he have?
9. Maurice has 280 coins – all quarters and dimes – won from playing poker. If his winnings total $\$49.45$, how many dimes does he have?
10. Pushkar is 9 years younger than two-fifths his father's age. If four times Pushkar's age in four years is equal to his father's age in seven years, determine both of their ages now.
11. The perimeter of a triangle is 64 metres. The longest side of the triangle is 3 times the length of the shortest side, and the third side is 8 metres less than double the length of the shortest side. Determine the dimensions of all three sides of the triangle.
12. Isolate for the indicated variable in each of the following formulas.
- a) $P = mt$; isolate m b) $A - l = P$; isolate l c) $p = 4q - w$; isolate q
- d) $P = 2(l + w)$; isolate w e) $C = \frac{5}{9}(F - 32)$; isolate F f) $A = \pi r^2$; isolate r
13. The cost of floor tiles is related to the number of tiles purchased. The relationship is given by $C = 4t$, where C is the cost in dollars and t is the number of tiles purchased.
- a) Use the equation to determine the cost of purchasing 18 tiles.
- b) Rearrange the formula so that t is isolated.

c) Use this new formula to find the number of tiles that could be purchased for \$210.

14. Chris is a salesperson at The Brick. His weekly salary is given by $P = 5t + 260$, where P is his weekly pay in dollars and t is the time worked, in hours.

a) Calculate his weekly pay if he worked 20 hours.

b) Rearrange this formula to isolate for t .

c) Use this new formula to determine the number of hours he worked in a week when he earned \$400.

ANSWERS:

1.a) $x = -4$ b) $y = -8$ c) $x = 11$ d) $x = 11$ e) $x = 49$ f) $x = -6$ g) $x = 5$ h) $x = -15$ i) $x = 12$ j) $x = 11$

k) $x = \frac{59}{14}$ l) $x = -1$ 2. 2 3. 2 4. -7 and -9 5. 48 m 6. \$0.40 7. 58 cm by 67 cm

8. 15 nickels, 23 dimes 9. 137 dimes 10. 9 yrs old and 45 yrs old 11. 12 m, 16m, 36 m 12.a) $m = \frac{P}{t}$ b) $l = A -$

P c) $q = \frac{p + w}{4}$ d) $w = \frac{P - 2l}{2}$ e) $F = \frac{9C}{5} + 32$ f) $r = \sqrt{\frac{A}{\pi}}$ 13.a) \$72 b) $t = \frac{C}{4}$ c) 52 tiles 14.a)

\$360 b) $t = \frac{P - 260}{5}$ c) 28 hrs

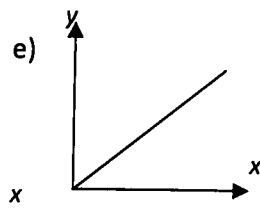
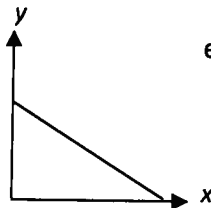
PART D

1. Identify the following as either LINEAR or NON-LINEAR relations:

a) $y = 6x + 4$ b) $y = 7^x$ c) $y = 2x^5 - 9$ d) $y = \frac{-2}{3}x$ e) $y = 3(x + 1)$

2. Classify the following linear relations as either a DIRECT or a PARTIAL variation:

a) $y = -2x + 9$ b) $y = x$ c) $y = \frac{3}{2}x$ d)



3. Determine if the following tables of values represent linear or non-linear relations. If the relation is linear, determine the slope and classify it as direct or a partial variation:

a)

x	y
0	8
1	10
2	12
3	14

b)

x	y
0	1
2	6
4	11
6	16

c)

x	y
0	2
1	3
10	102
4	18

d)

x	Y
-2	5
0	10
2	20
4	40

e)

x	y
12	-36
0	0
8	-24
4	-12

4. y varies directly with x . When $x = -9$, $y = 12$. Determine an equation to model this relation.

5. y varies partially with x . When $x = 8$, $y = 16$. When $x = 0$, $y = 2$. Determine an equation to model this relation.

6. Determine whether the tables of values below represent a direct or a partial variation. Then, determine an equation for each relationship:

a)

x	y
0	0
1	8
2	16
3	24

b)

X	y
-3	0
0	-12
3	-24
6	-36

c)

x	y
8	-9
12	-7
16	-5
20	-3

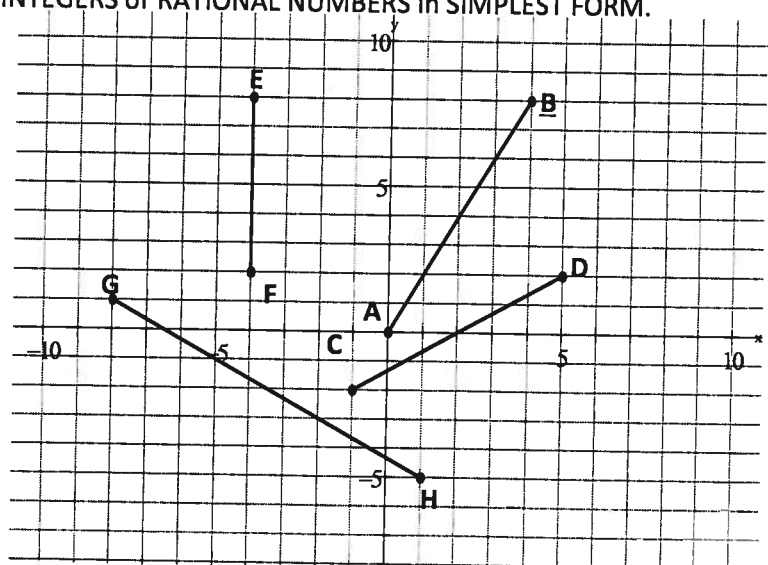
7. State the slope of the line segments as INTEGERS or RATIONAL NUMBERS in SIMPLEST FORM.

AB

CD

EF

GH



8. Graph the linear equation $y = 3x + 1$ by creating a table of values.
9. The cost of producing coffee to sell depends on the amount of coffee produced. The production cost of 16 cups of coffee is \$1.92.
- Is this an example of a direct or a partial variation?
 - Determine the constant of variation. Interpret this constant as a rate of change.
 - Write an equation to represent this relationship. Define your variables precisely.
 - Use your equation to determine the cost of producing 88 cups of coffee.
 - Use your equation to determine the number of cups of coffee that can be produced for a cost of \$28.20.
10. The monthly cost of a cell phone increases depending on the number of minutes used. Fido offers a plan with a set monthly fee of \$26.75 plus a fee of \$0.10 for each minute used.
- Is this an example of a direct or a partial variation?
 - Identify the fixed cost and the variable cost for this relation.
 - Write an equation to represent his relationship. Define your variables precisely.
 - Use your equation to determine the monthly cost for using the phone for 820 minutes.
 - Use your equation to determine the number of minutes you used if your monthly bill was \$83.15.

ANSWERS:

1. linear: a, d, e; non-linear: b, c 2. direct: b, c, e; partial: a, d 3. a) linear, $m = 2$, partial b) linear, $m = 2.5$, partial
 c) non-linear d) non-linear e) linear, $m = -3$, direct 4. a) $y = \frac{-4}{3}x$ 5. $y = \frac{7}{4}x + 2$ 6. a) direct, $y = 8x$
 b) partial, $y = -4x - 12$ c) partial, $y = \frac{1}{2}x - 13$ 7. AB: $m = 2$, CD: $m = 2/3$, EF: $m = \text{undefined}$, GH: $m = -2/3$ 9. a) direct b) $k = 0.12$, or \$0.12/cup each cup costs \$0.12 to produce c) $y = 0.12x$ d) \$10.56 e) 235 cups 10. a) partial b) fixed cost (b) = \$26.75, variable cost (m) = \$0.10/min c) $y = 0.1x + 26.75$ d) \$108.75 e) 564 min.

PART E

1. Find the slope, the y -intercept, and the x -intercept for each of the following, showing your work:

a) $y = \frac{2}{3}x + 4$ b) $2x + y - 8 = 0$ c) $x = -7$ d) $y = -2x$ e) $3x + 2y - 12 = 0$

2. Graph each of the following lines, using the method indicated:

- a) $y = 3x - 5$, using the slope, y-intercept method b) $x = 7$, using any method
c) $4x - 3y + 12 = 0$, using the x and y intercepts method d) $y = 2$, using any method
e) $y = -x$, using the slope, y-intercept method

3. Determine the equation of the line in slope, y-intercept form given the condition that it:

- a) passes through the points $(-2, 1)$ and $(4, 7)$.
b) has slope = 0 and y-intercept = 6.
c) passes through the origin and the point $(3, 2)$.
d) has an x-intercept of 5 and a y-intercept of -3 .
e) is parallel to the y-axis and passes through the point $(-2, 8)$.
f) is perpendicular to the line $2x - y + 5 = 0$ and passes through the point $(5, 1)$.
g) is parallel to the line $y = 4x - 2$ and has the same y-intercept as $2x + 3y - 12 = 0$.
h) has slope $\frac{2}{3}$ and the same x-intercept as $2x - 5y + 10 = 0$.

4. Solve the given linear systems by graphing to find the point of intersection.

- a) $2x - 5y + 15 = 0$ $x + y = 1$
 $y = 2x - 5$ b) $3x - 2y = -12$

5. The YMCA has two different monthly payment plans to use their facilities. A non-member must pay \$8 per visit. A member must pay an initial monthly fee of \$12 and then \$6 per visit.

- a) Write an equation to describe each payment plan, where x is the number of visits and y is the total monthly cost, in dollars.
b) Using a graph, determine the number of visits for which the cost would be the same.
c) What advice would you give to someone who is considering purchasing a membership?

ANSWERS:

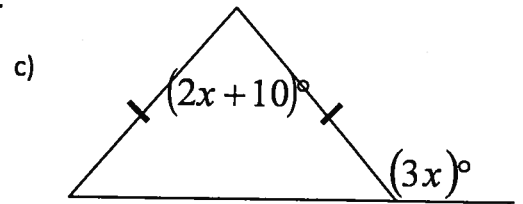
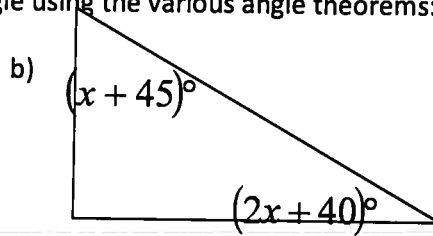
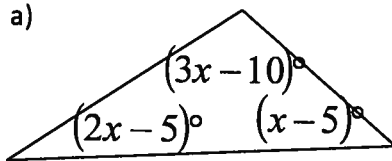
- 1.a) $\frac{2}{3}$, 4, -6 b) -2, 8, 4 c) undefined, none, -7 d) -2, 0, 0 e) $\frac{-3}{2}$, 6, 4 3.a) $y = x + 3$

b) $y = 6$ c) $y = \frac{3}{2}x$ d) $y = \frac{3}{5}x - 3$ e) $x = -2$ f) $y = \frac{-1}{2}x + \frac{7}{2}$ g) $y = 4x + 4$ h) $y = \frac{2}{3}x + \frac{10}{3}$

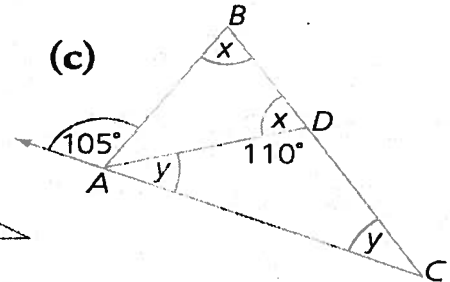
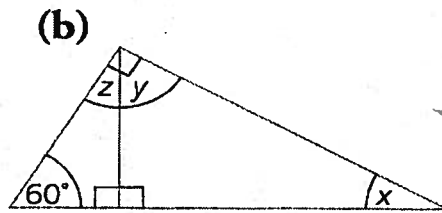
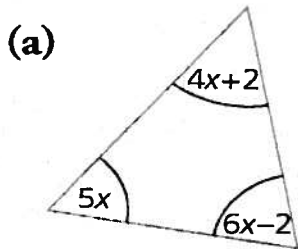
4.a) $(5, 5)$ b) $(-2, 3)$ 5.a) non-member: $y = 8x$, member: $y = 6x + 12$ b) 6 visits under either plan cost \$48 c) an individual who will visit the gym less than 6 times should not buy a membership

PART F

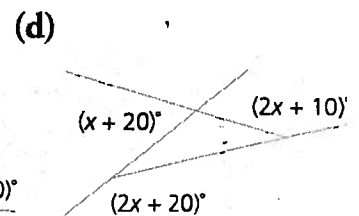
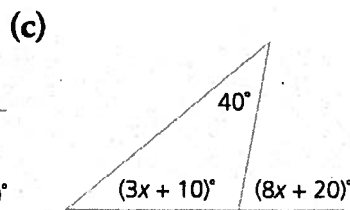
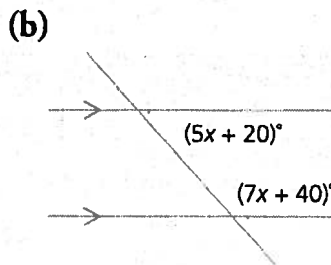
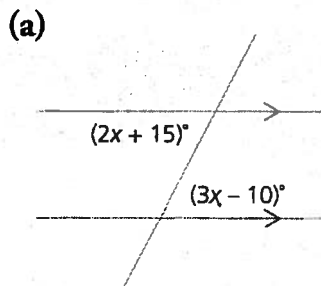
1. Find the value of x in each triangle using the various angle theorems:



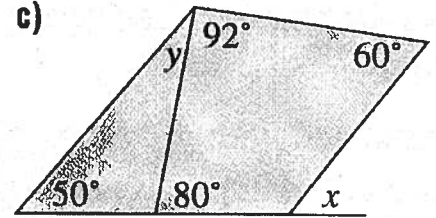
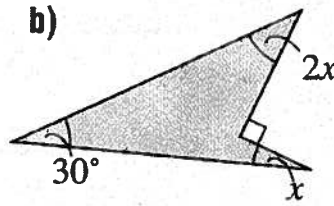
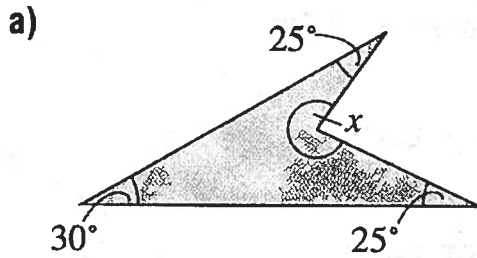
2. Find the measure of each unknown angle using the various angle theorems.



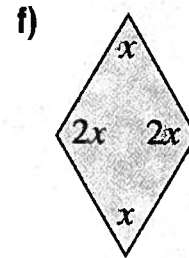
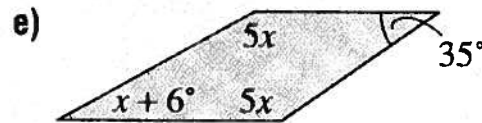
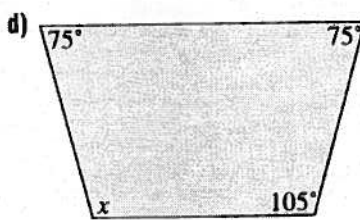
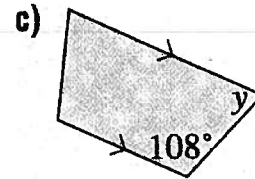
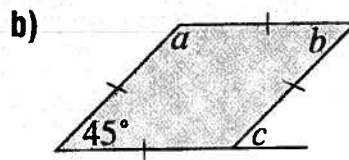
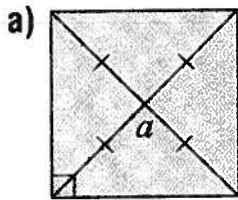
3. Determine the value of x and find the measure of each of the angles represented by an algebraic Expression, using the various angle theorems:



4. Determine the measure of each unknown angle using the various angle theorems:



5. Calculate the measure of each unknown angle using the various angle theorems:



6. What are the measures of the exterior angle and the interior angle at each vertex of a regular 18-sided polygon?

7. The interior angles of a regular polygon add up to 1440° . How many sides does the polygon have?

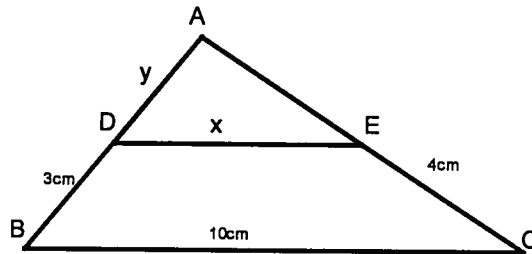
8. Find the measure of each interior and exterior angle as well as sum of the interior angles of each polygon.

- a) hexagon b) octagon c) dodecagon(12-sided figure)

9. For each of the following statements, either explain why it is true or draw a counter-example to show that it is false:

- a) A median bisects the area of a triangle.
 b) The medians of an isosceles triangle are equal in length.

10. DE is the line segment joining the midpoint of AB to the midpoint of AC. Find x and y .



ANSWERS:

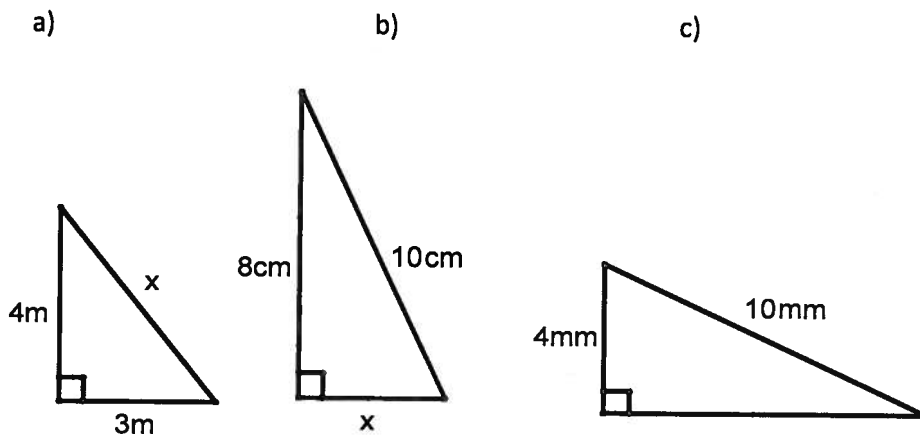
1.a) 30 b) 19 c) 42.5 2.a) $x = 12^\circ$ b) $x = 30^\circ, y = 60^\circ, z = 30^\circ$ c) $x = 70^\circ, y = 35^\circ$ 3.a) $x = 25$ b) $x = 10$ c) $x = 6$ d) $x = 62$ 4.a) $x = 280^\circ$ b) $x = 20^\circ$ c) $x = 52^\circ, y = 30^\circ$ 5.a) $a = 90^\circ$

b) $a = 135^\circ, b = 45^\circ, c = 45^\circ$ c) $y = 72^\circ$ d) $x = 105^\circ$ e) $x = 29^\circ$ f) $x = 60^\circ$ 6. exterior = 20° , interior = 160° 7. 10 8. a) exterior = 60° , interior = 120° , sum = 720° b) exterior = 45° , interior = 135° ,

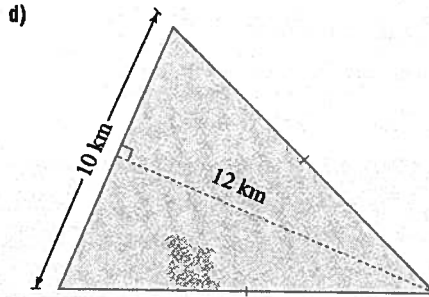
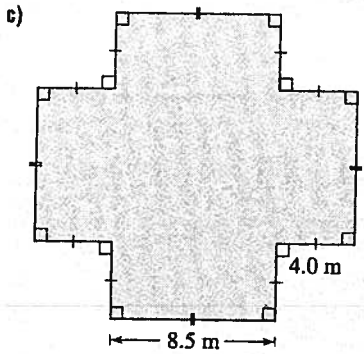
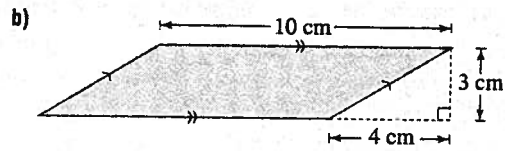
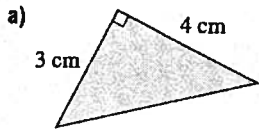
sum = 1080° c) exterior = 30° , interior = 150° , sum = 1800° 9. a) True b) False 10. $x = 5cm$, $y = 3cm$

PART G

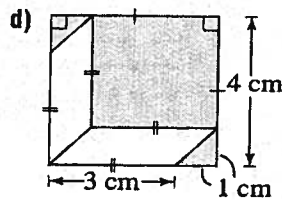
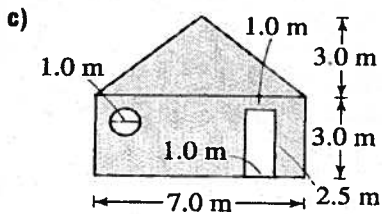
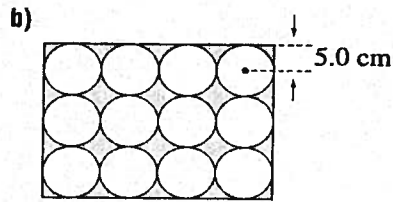
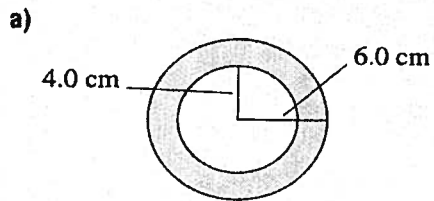
1. Calculate the length of the unknown side for each triangle. Then, determine the area and the perimeter, correct to 1 decimal place:



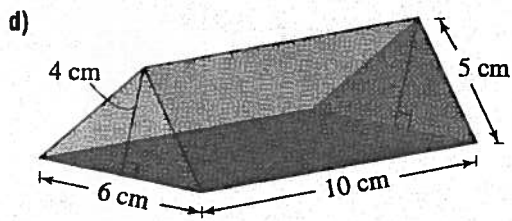
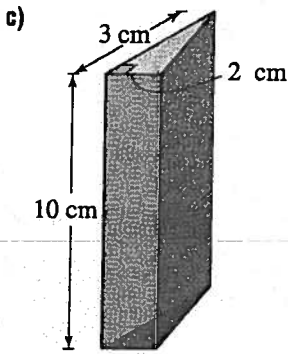
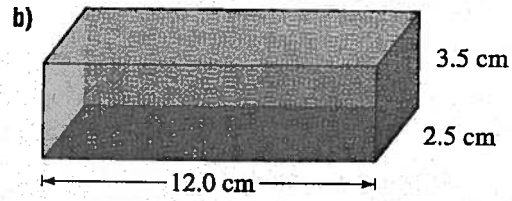
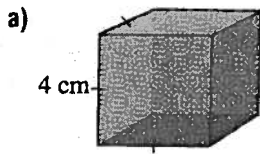
2. Calculate the perimeter and the area of each 2D shape, correct to 1 decimal place.



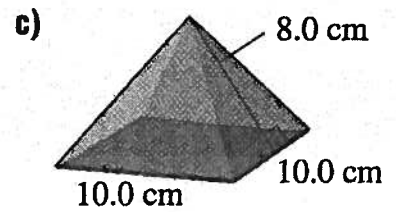
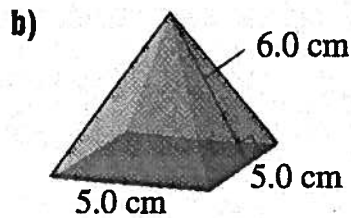
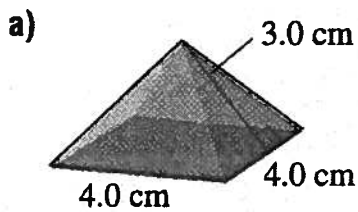
3. Determine the area of the shaded region of each composite figure, correct to 1 decimal place:



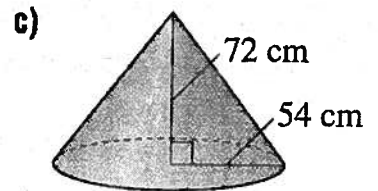
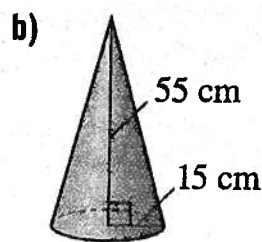
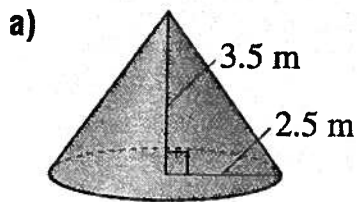
4. Calculate the surface area and the volume of each prism:



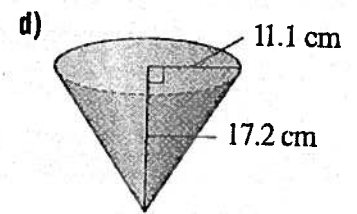
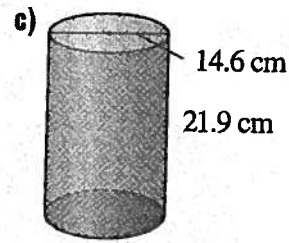
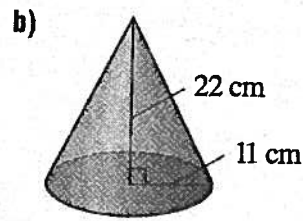
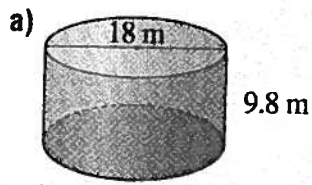
5. Determine the surface area of each pyramid:



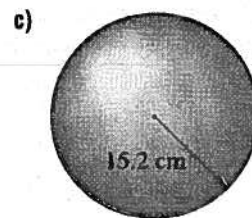
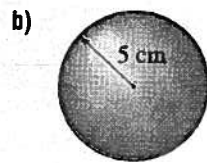
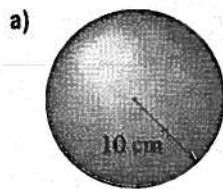
6. Determine the surface area and volume of each cone exactly (i.e. use π in your calculation):



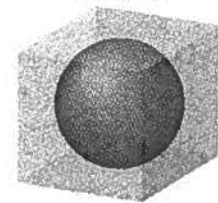
7. Determine the volume of each 3D figure, correct to 1 decimal place:



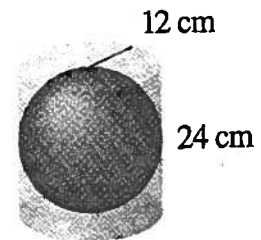
8. Calculate the surface area and volume of each sphere, to the nearest full unit:



9. A sphere is inscribed in a cube with edges of length 10 cm. Calculate the surface area and volume of the sphere, to the nearest full unit:



10. A sphere is inscribed in a cylinder with base radius 12 cm and a height 24 cm. Calculate the surface area and the volume of the sphere and the cylinder, to the nearest full unit.



ANSWERS:

1.a) 5 m b) 6 cm c) 9.2 mm 2.a) 12 cm, 6 cm² b) 30 cm, 30 cm² c) 66 m, 208.2 m² d) 36 km, 60 km²

3.a) 62.8 cm² b) 257.5 cm² c) 28.2 m² d) 10 cm² 4.a) 96 cm², 64 cm³ b) 161.5 cm², 105 cm³ c) 92 cm², 30 cm³

d) $184 \text{ cm}^2, 120 \text{ cm}^3$ 5.a) 40 cm^2 b) 85 cm^2 c) 260 cm^2 6.a) $17\pi \text{ cm}^2, 7.3\pi \text{ cm}^3$ b) $1080\pi \text{ cm}^2, 4125\pi \text{ cm}^3$

c) $7776\pi \text{ cm}^2, 69984\pi \text{ cm}^3$ 7.a) 2494 m^2 b) 2788 cm^2 c) 3666 cm^2 d) 2219 cm^2 8.a) $1257 \text{ cm}^2, 4189 \text{ cm}^3$

b) $314 \text{ cm}^2, 524 \text{ cm}^3$ c) $2903 \text{ cm}^2, 14710 \text{ cm}^3$ 9. $314.2 \text{ cm}^2, 523.6 \text{ cm}^3$ 10. $2714.2 \text{ cm}^2, 108657 \text{ cm}^3, 1840 \text{ cm}^2, 7238 \text{ cm}^3$