GRADE 10 ESSENTIAL
MID-TERM REVIEW

Name: _____
Date: _____

- Use a calculator (unless otherwise indicated)!
- You really should use your single sheet of reference notes.
- Conversion tables, templates and formulae will be provided.
- Each question is worth two marks unless otherwise indicated.
- Round decimal answers to the nearest 0.01 or as indicated

PART 1 - MULTIPLE CHOICE

Circle the letter of the best or closest answer.
Guess if necessary
Each question is worth two marks.
(Be strategic! Eliminate the bad answer(s), back-solve (guess and check) the reasonable answers, use common sense, ….)

1. The Canada Pension Plan (**CPP**):

   a. is a contributory plan to which workers pay a portion of their employment income;

   b. is a defined benefit financial plan that lets you relax in luxury when you retire;

   c. is a voluntary plan that can be declined using a T7B tax form;

   d. has been enjoyed by our progressive society for almost 100 years now.

2. An example of a deduction from employment income is:

   a. CPP benefit

   b. CCB (Canada Child Care benefit)

   c. gratuities and commissions

   d. EI contributions

3. If Jayson goes to work at 09:15 and leaves work at 15:00 and has an unpaid 30 minute lunch break; for what duration of time does he get paid?

   a. 8 hours **b.** 5 hours 15 minutes

   c. 15 hours **d.** 6 hours 45 minutes

4. 3700 grams is equivalent to_____ kg

   a. 3.7 kg b. 37 kg c. 3.7 mg d. 0.0037 kg

5. Which of one these is NOT a possible pay deduction?

   a. Canada Pension Plan (CPP) contributions

   b. Canada Child Benefit (CCB)

   c. Employment Insurance (EI) contributions

   d. Charity contributions

6. 1.7 metres is the equivalent of:

   a. 170 cm **b.** 170 mm **c.** 5.18 ft **d.** 55.76 ft

7. A handful of grapes might weigh:

   a. $1.25 **b.** 10 grams

   c. 12 litres **d.** ¾^{ths} of a Bohemian gronk

8. $1\frac{1}{4} + 2\frac{3}{8}$ =

   a. 4.75 b. $3\frac{5}{8}$ c. $3\frac{4}{12}$ d. $3\frac{1}{3}$ when properly reduced

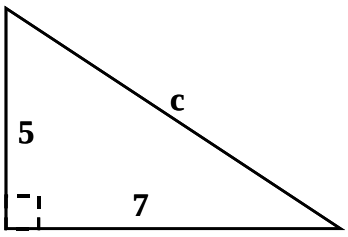
9. The length of side c is:

   a. 12 units

   b. 6 units

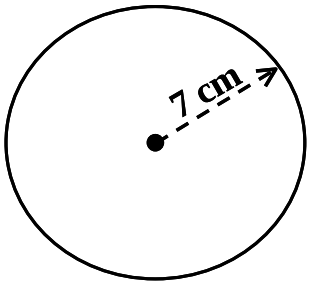
   c. 74 units

   d. 8.6 units



Not to scale

10. The circumference of the circle is:



a. **22 cm**

b. **154 cm^2**

c. **44 cm**

d. **$7^2/\pi$ mm**

11. 52 inches is how many feet and inches?

a. 3 feet 14 inches **b.** 4 feet 10 inches

c. 4.3 feet **d.** 4’ 4”

12. 4.95% of $630 is:

a. $31.19 **b.** $634.95 **c.** non-taxable **d.** $3118.50

13. Evaluate: $6 + 3^2 - 4$

a. 77 **b.** 5 **c.** $\sqrt{(6-4)}$ **d.** 11

14. Two of what number **multiplied** together gives you 81?

a. 9 b. 6561 c. 3 d. 40.5

15. A rectangle has a width of 10 cm. The length of the rectangle is twice as long as the width. What is the outside measure of the **perimeter** of the rectangle?

a. 30 cm b. 200 cm^2 c. 40 cm d. 60 cm

16. If Karen earns a regular wage of $12.55 per hour and gets a 4% pay raise (*ie*: an extra 4% raise), how much is her new regular rate of pay?

a. $50.20 b. $16.55 c. $13.05 d. $12.59

17. John is calculating the width of some cabinets he wants to build. He needs a length of 2 feet 8 inches added to a length of 3 feet 6 inches. What is the total length he needs (adding the lengths together)

a. 6ft 2in b. 19 inches c. 5'14" d. 78 inches

18. The time is 09:40. Angela calls to say she will here in 1 hour and 35 minutes (1 hr 35min). What time will Angela arrive?

a. 11:00 b. 13:00 c. 11:15 d. whenever she wants

19. If four equally priced pizzas plus $10 worth of Coke costs $44, how much does one pizza cost? (*Hint: Guess and Check or work backwards*)

Each pizza costs:

a. $8.50 b. $11.00 c. $13.50 d. $54.45

20. The metric temperature unit is a degree on the Celsius scale (°C). (*Celsius was a scientist; hence we capitalize the name of the unit of this measurement*). The formula to convert degrees Celsius (°C) to the old degrees Fahrenheit (°F) is: F = 9/5 * C + 32
If the temperature outside is 5 °C then what is the temperature measured in the old °F temperature units?

a. 67 °F b. 41 °F c. 212 °F d. 30 °F

21. Kyle has four **different** books he wants to arrange in a line on a shelf: Biology, English, Math, and Poetry. If the **first** book **has to be** his Math book, how many ways can he arrange all four books on the shelf? (*possible methods: make a list, use a formula, draw diagram, use logic…*)

a. 4 ways b. 6 ways c. 24 ways d. Math sucks, burn that one

22. The **product** of 2 and a half **and** 3 and a quarter (ie: $2\frac{1}{2} * 3\frac{1}{4}$) is:

a. $5\frac{2}{6}$ b. seven(ish) c. 8.13 d. $8\frac{1}{8}$

23. If there are three possible toppings for your pizza; how many different combinations of pizzas can you order if you select two different toppings

a. 2 b. 3 c. 6 d. only one

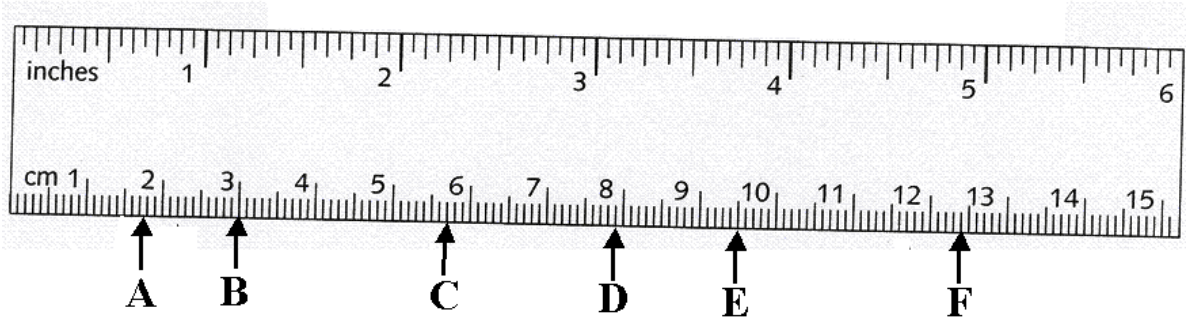
Name: _____
Date: _____

PART 2
OPEN RESPONSE

Show work for best mark. Use calculator if necessary. Use your single sheet of reference notes. Round answers to nearest hundredth.

1. Complete the table for the indicated measurements: (nearest tenth of a centimetre)

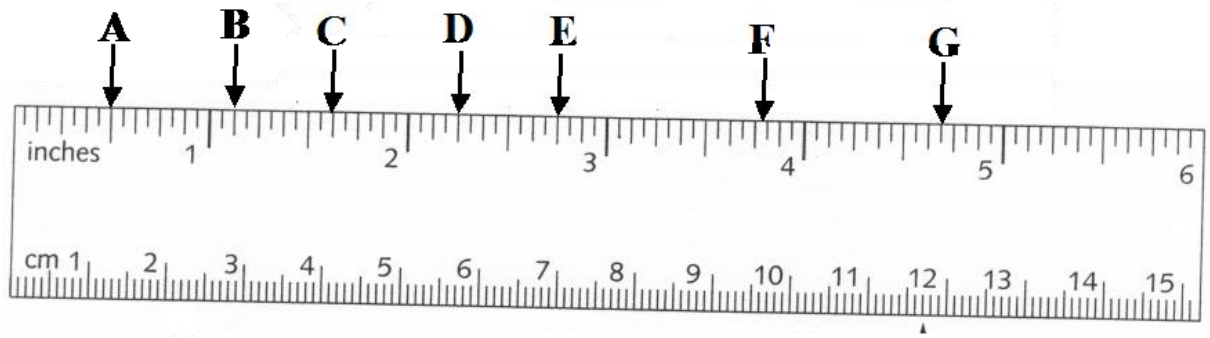
3



Position	A	B	C	D	E	F
cm						

2. Complete the table for the indicated measurements: (nearest *eighth* of an inch)

3



Position	A	B	C	D	E	F	G
inch							

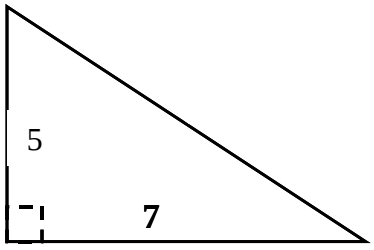
3. Kevin works the following weekly schedule. He gets an hourly wage rate of **$13.50 per hour**. Overtime is calculated after **eight hours** in any day. His overtime rate of pay is calculated as 'time-and-a-half'.

Calculate his **gross** weekly pay.

Weekday	M	T	W	Th	F	Sa	Su
Hours	**8**	**9.5**	**8**	**10**	**10**	**6**	**0**

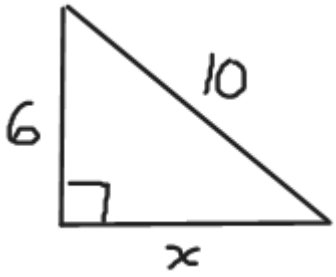
4

4. Calculate the length of the missing side:



3

5. Calculate the length of the missing side



6. **Convert the following: (***use your conversion tables you were issued***)**

a. 1620 g = _____kg

b. 80 km = _____ metres [m]

12

c. 1 year = _____ hours (*multi-step*)

d. 6 lbs 3 oz = _____ oz

e. 200 m = _____ kilometres [km]

f. 30 litres = _____ US Gallons

g. 62 metres [m] = _____ ft ____in (to nearest inch)

h. 75 kg = _____ lbs _____ oz (to nearest oz)

i. 8 lb 5 oz = _____ kg

j. 16 feet 4 inches = _____ m

6. Hollie makes **$14.00** per hour. She worked **46** hours last week. She gets overtime of **time and a half** after **40** hours in a week. (She has two kids and receives a **CCB** benefit of $550 each kid but that is untaxed so we will not include that in her **earned** income and net pay). She has her boss send a **$20** contribution weekly to an **RRSP** retirement plan that she has at her bank. Her **Union** takes **$6.28** per week. The normal **Income Tax** rate (Combined Provincial and Federal) for her income level is **21%**. **CPP** contributions are the normal **4.95%** of **gross** and **EI** contributions are **1.85%** of **gross**. Her company takes off a total of **$15** a week for both parking and coffee fund.

Calculate her **Net Pay** using the template below or the general template provided in class.

10 marks

Regular Pay Earned		*Reg hrs * reg pay rate*
O/T Pay Earned	+	*O/T hrs * O/T pay rate*
Commission	+	*% of sales*
Gross Income →	=$	
– RRSP contributions	–$	
– Union Dues	–$	
= Taxable Income	$	
– Income Tax Combined	–$	% of **taxable** income
– CPP contribution	–$	% of gross income
– EI contribution	–$	% of gross income
– Charity	–$	
– Other	–$	
NET Income	$	Take home Pay for the pay period

7. Complete the questions in following table:

a. 5 ft 4 in *subtract* 3 ft 8 in is:

b. three and a half bunches of 6 bananas is how many bananas?

c. A two thirds portion of 9 whole strips of bacon is:

d.

$$\begin{array}{r} 2\ hr\ 55\ min \\ +\ 3\ hr\ 20\ min \\ \hline \end{array}$$

e.

$$\begin{array}{r} 6\ hr\ 15\ min \\ -\ 3\ hr\ 20\ min \\ \hline \end{array}$$

f.

$$\begin{array}{r} 6\ lb\ 7\ oz \\ +\ 4\ lb\ 8\ oz \\ \hline \end{array}$$

g.

$$\begin{array}{r} 5\ yd\ 2\ ft\ 8\ in \\ +2\ yd\ 1\ ft\ 7\ in \\ \hline \end{array}$$

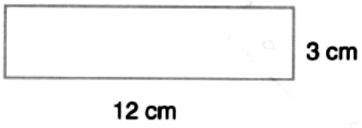
h.

$$\begin{array}{r} 5\ yrs\ 3\ months \\ +\ \ 3\ yrs\ 10\ months \\ \hline \end{array}$$

Determine the Perimeter (or Circumference) of each figure below. Round to nearest 0.01 as usual! Of course you are always allowed your Geometry Formulae sheet as well always.

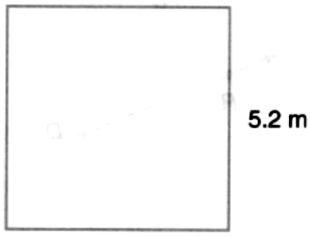
1.

a



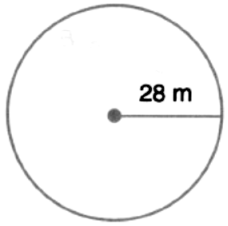
_____ cm

b



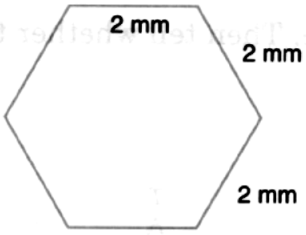
_____ cm

c

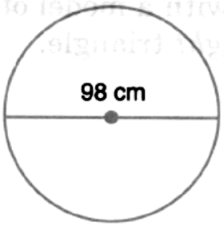


about _____ m

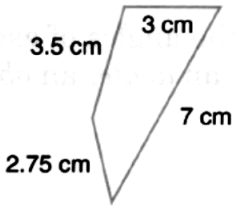
2.



_____ mm



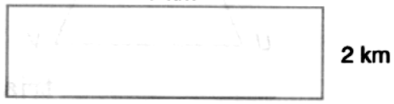
about _____ cm



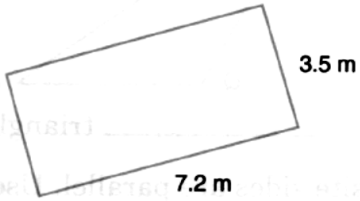
_____ cm

Determine the area of each figure below

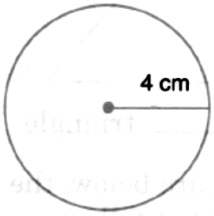
3.



_____ km²

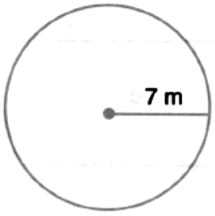


_____ m²

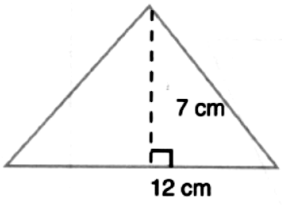


about _____ cm²

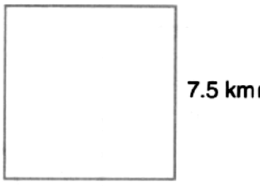
4.



about _____ m²

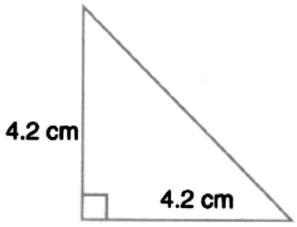


_____ cm²

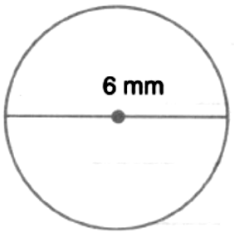


_____ km²

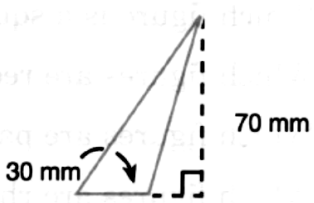
Determine the Perimeter and the Area



_____ cm^2



about _____ mm^2



_____ mm^2

8. Complete the blanks in the table: (*the first one is done for you*) (use a calculator of course if you must, but try without!)

Fraction (Mixed numbers Fraction and properly reduced)	**Decimal**	**Percent**
$\frac{1}{2}$	0.5	50%
$\frac{3}{4}$		
$\frac{5}{8}$		
$2\frac{3}{4}$ (*aka:*$\frac{11}{4}$)		
	0.10000	
	0.35	
	1.6	
		44%
		90%
		120%

9. Calculate; solve for the unknown using proportions (cross multiply):

a. if 4 pickles cost 3 dollars, how much will one pickle cost?

b. if you can get 8 kicks in the butt for $10, and you have $25 to spend, how many kicks in the butt can you get?

c. $\frac{n}{8} = \frac{12}{16}$; so n =

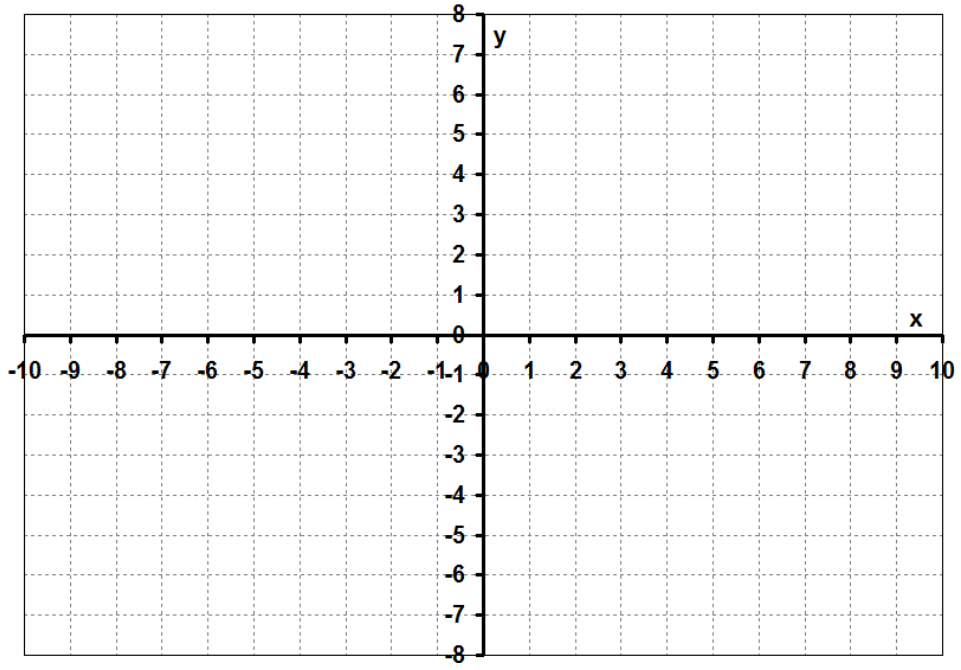
d. $\frac{n}{14} = \frac{5}{35}$; so n =

e. $\frac{2}{14} = \frac{5}{x}$; ∴ x =

f. $\frac{3}{8} = \frac{7.5}{x}$; ∴ x =

10. Plot and label the following points on the Cartesian grid below:

A(4, 3); **B**(0, 6) **C**(–5, 3) **D**(–5, –1) **E**(4, 0)



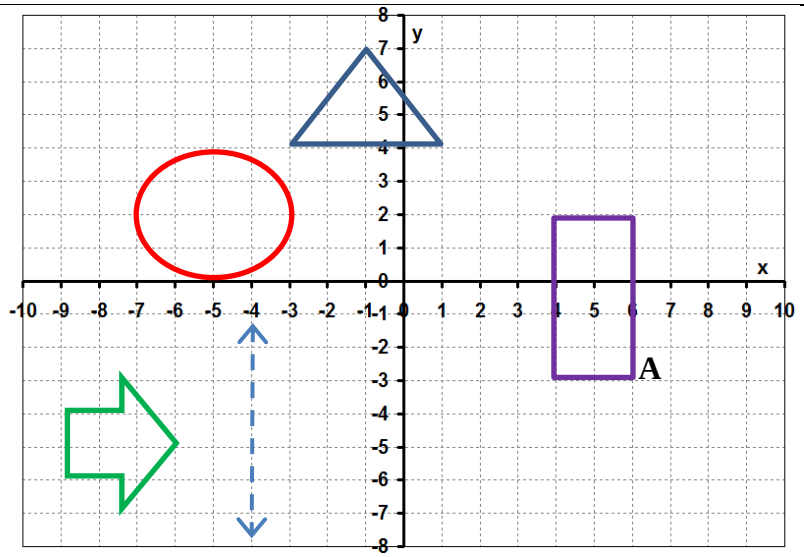
11. Transform the shapes as indicated:

a. translate the triangle 3 right and 2 down;

b. reflect the circle through the x-axis;

c. rotate the rectangle clockwise 90° around point A;

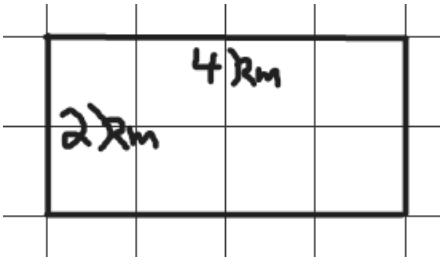
d. reflect the arrow through the line **x = –4**



8. Determine the area and perimeter:

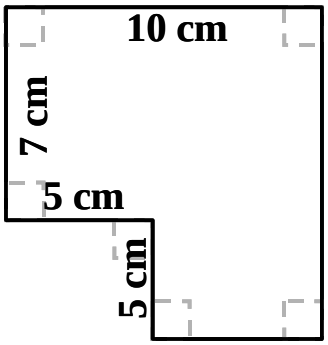
8

a. Parallelogram:



P = _____ A = _____

b. Irregular rectilinear figure



P = _____ A = _____

9. Determine the Circumference ***and*** the Area of a circle having a diameter of 12 cm.

Circumference: _____ Area: _____

4

5. Find the Radius and Diameter given the Circumference (work backwards with algebra)

a. Circle of circumference 62.832 km.

Radius = _____

Diameter = _____

b. circle of circumference 10 ft 3 inches

Radius = _____ (to nearest 1/4th inch)

Diameter = _____ (to nearest 1/4th inch)

15. **Convert the following areas**:

a. 10 m^2 into cm^2 is

b. 144 sq inches (in^2) = _____ sq ft (ft^2)

c. 30 m^2 = _____ ft^2

d. 300 ft^2 = _____ m^2

Problem Solve. At a football game, 4 hotdogs and $2 coke cost a total of $17.00. How much does one hotdog cost?

Problem Solve. At a powwow 3 hotdogs and one 2 coke cost $13.00. And 3 hotdogs and one coke cost $11.75. Determine the price of a hotdog.

d. Bonus. If you have two nickels, two quarters and one dime in your pocket and you reach into your pocket and randomly select out just two coins, how many different sums of money can you get with those two coins.

e. Bonus (2 marks). Draw a picture of a rectangle with a small shaded-in circle in the top left corner and a cute little puppy in the bottom right corner.

BONUS QUESTIONS (Extra 2 marks each if you need them)

a. If I eat 36% of a pizza what fraction of whole pizza did I eat?

b. If I have ¾ of my birthday left over and my sister wants a two-thirds portion of that leftover birthday cake; how much birthday cake will my sister eat?

c. If Josh eats one-eighth of a bagel, how much of a bagel does he have left over?