

GRADE 10 ESSENTIAL
MID-TERM TEST 22-10-12

Name: _____

Date: _____

THIS IS A TAKE-HOME, OPEN BOOK TEST. It is worth ~12 to 15% of your course mark. It is due No Later than Tues, Oct **18** at 13:00

Collaborate with a classmate / partner if desired, but identical duplicate solutions will bear considerable scrutiny! *ie: do not just copy!*

Use a calculator to its full effect.

You may certainly use your single sheet of *Study Notes (Cheat Sheet)*. Use the Conversion Tables and Geometric Formulae and templates you have been provided already.

PART 1 - MULTIPLE CHOICE

Circle the letter of the **best** or **closest** answer.

Guess if necessary!

Each question is worth two marks.

1. The Canada Pension Plan (**CPP**):
 - a. is a defined benefit retirement plan that lets you relax in luxury when you retire;
 - b. is a contributory plan to which workers pay a portion of their employment income;
 - c. is a completely voluntary plan that can be declined using a T4B tax form;
 - d. has recently been changed so it can only be collected when reaching age 67 now.

2. An example of a **deduction** from employment income is:
 - a. CPP benefit
 - b. CCB (Canada Child Benefit)
 - c. income from commissions and tips
 - d. charity contributions

3. If Kyle goes to work at 07:45 and leaves work at 16:15 and has an unpaid 45 minute lunch break; for what duration of time that day does he get paid?

- a. 8 hours
- b. 5 hours 45 minutes
- c. 7 hours 45 minutes
- d. a full eight hour shift

4. What is the sum of the consecutive counting numbers from 1 to 40 if you add them all up?

- a. impossible
- b. 410
- c. 41
- d. 820

5. Which **one** of these statements below is correct:

- a. $3 + 2 * 4 = 20$
- b. $4^2 = 8$
- c. $3^2 + 4^2 = 5^2$
- d. $(4 + 6)^2 * 2 = 120$

6. Someone who is 5 foot 8 inches is how many inches tall?

- a. 68 in
- b. 58 in
- c. 5.8 ft
- d. 5.8 kg

7. The length of a normal family car is probably close to:

- a. 5 metres
- b. 100 millimetres
- c. 15 metres
- d. 38 feet 5 inches

8. **BONUS.** Calculate manually or with a calculator; $1 \frac{3}{4} \cdot 1 \frac{1}{3} =$

- a. 4.5
- b. $\frac{3}{7}$
- c. $3 \frac{4}{12}$
- d. $2 \frac{1}{3}$

9. If Avery has three different bingo dabbers, how many ways can she line them up in front of her at Bingo?

- a. 3 ways
- b. 9 ways
- c. 27 ways
- d. 6 ways

10. **Proportions.** If 8 perogies cost \$3.50 then how much will 20 perogies cost?

- a. \$11.50 b. \$20 or so c. \$2.29 d. \$8.75

11. **42 inches** is how many **feet and inches**?

- a. 3 feet 6 inches b. 4 feet 2 inches
c. 4.2 feet d. 4' 2"

12. 4.95% of \$1,750 is:

- a. \$86.63 b. \$634.95
c. non-taxable d. \$8663

13. The two short sides of a right triangle are 7 m and 5 m. The hypotenuse has a length of:

- a. 8.60 m b. 12 m c. 74 m d. 74 m²

14. Janice earns \$17.40 per hour regular pay. She gets '*time-and-a-half*' after 8 hours in a day. She worked 10 hours **today**. What is her gross pay for the **day**?

- a. \$191.40 b. \$174.00 c. \$261.00 d. \$26.10

15. If I add 5 foot 4 in to 3 foot 8 in, I get a total length of:

- a. 8 ft 12 in b. 9 feet c. 8.12 feet d. 9.2 feet

16. If $\frac{5}{6} = \frac{x}{24}$; then $x =$

- a. 20 b. 30 c. 144 d. 120

17. 6 years ago my dog was 8, how old is my dog **now**?

- a. 14 years b. 4 years c. 2 years d. $\frac{8}{6}$

PART 2
OPEN RESPONSE

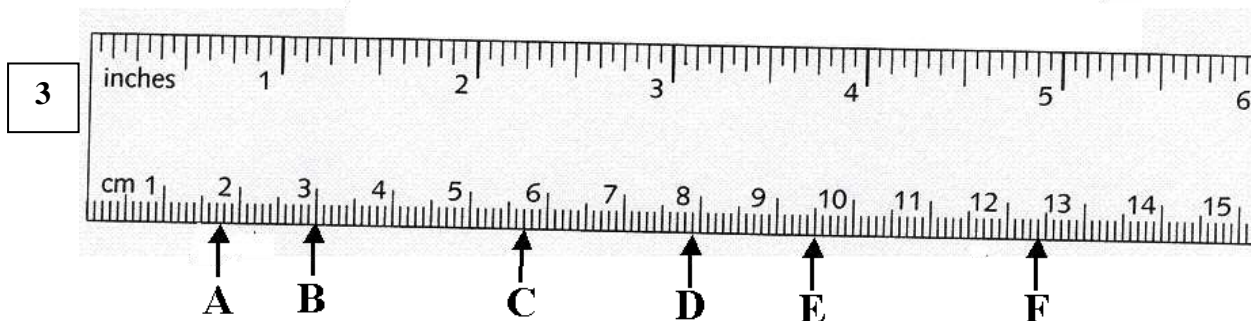
Name: _____

Date: _____

Show work for best mark. Use a decent calculator. Use the issued **conversion tables** and **geometric formulae**. Having a cheat sheet handy is useful too so you do not have to flip through notes and past assignments.

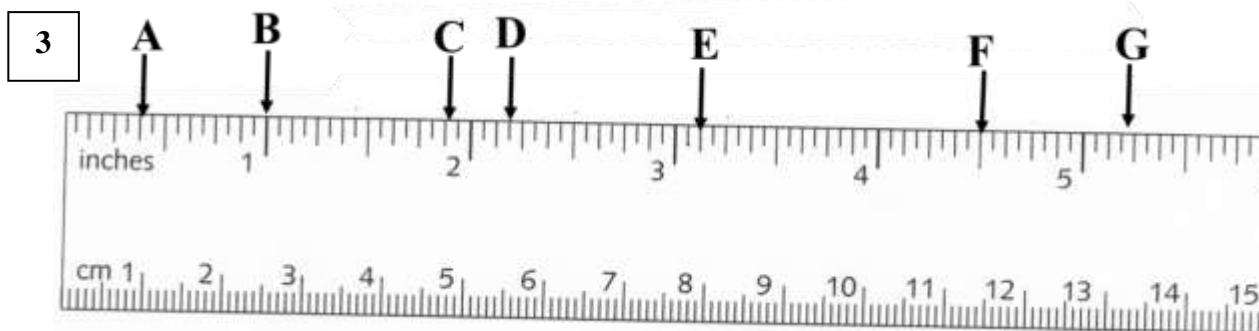
Round decimal answers to nearest hundredth; 0.01 unless otherwise specified. **Show work. Show units. Box answers.** Etc.

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



Position	A	B	C	D	E	F
cm						

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



Position	A	B	C	D	E	F	G
Inches Nearest $\frac{1}{8}^{\text{th}}$							

3. Lyle worked the following weekly schedule. He gets an hourly wage of **\$15.20**. Overtime is calculated after **eight hours in any day**. His overtime rate is **'time and a half'**. Calculate his **gross** weekly pay.

Weekday	M	T	W	Th	F	Sa	Su
Hours	4	8.5	9	10	9	7.5	0

4

4. Solve for 'x': (express as a decimal to nearest 0.01)

a. $\frac{7}{8} = \frac{x}{36}$

b. $\frac{9}{16} = \frac{67.5}{x}$

4

5. Convert the following:

a. 7 lbs 5 oz = _____ oz

b. 16 km = _____ metres [m]

12

c. 28 days = _____ mins

d. 12 lbs = _____ kg

e. 3.87 m = _____ km

f. 5 gallons = _____ pints

BONUS (1 mark). There is no such thing as 0.17 ft! Convert 0.17 feet into the nearest whole number of inches.

0.17 feet = ~ _____ inches (approx. to nearest whole inch)

6. Add or subtract as indicated:

a.

$$\begin{array}{r} 2 \text{ hr } 55 \text{ min} \\ + 3 \text{ hr } 35 \text{ min} \\ \hline \end{array}$$

b.

$$\begin{array}{r} 6 \text{ hr } 15 \text{ min} \\ - 2 \text{ hr } 30 \text{ min} \\ \hline \end{array}$$

c.

$$\begin{array}{r} 5 \text{ lb } 7 \text{ oz} \\ + 4 \text{ lb } 6 \text{ oz} \\ \hline \end{array}$$

6

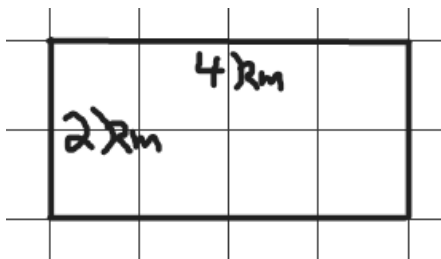
7. Travis makes **\$13.00** per hour as a server. He worked **44** hours last week. He gets overtime of **time and a half** after **40** hours in a week. He had sold \$1500 of food and earned a 15% commission (ie: tips) on the food sales. He pays a **\$30** contribution weekly to his **RRSP** retirement plan and his **Union** takes **\$8.50** per week. The normal **Income Tax** rate (Combined Provincial and Federal) for his income level is **18%**. **CPP** contributions are the current **5.15%** of **gross** and **EI** contributions are **1.93%** of **gross** pay. His company takes off a total **\$15** a week for his parking and **\$10** for Travis' designated charity. Calculate his **net pay** using the template below.

	Regular Pay		=reg rate * reg hrs
	Overtime Pay		= o/t rate * o/t hrs
	Commission (or tips)		=% of sales
	Gross Income →		
	– RRSP contributions		
	– Union Dues		
	= Taxable Income		
10 marks	– Income Tax		% of taxable income
	– CPP contribution		% of gross income
	– EI contribution		% of gross income
	– Charity		
	– Other		
	NET Income		Take Home Pay

8. Determine the area and perimeter:

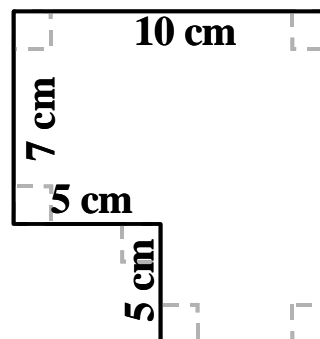
a. Rectangle:

8



P = _____ A = _____

b. Irregular rectilinear figure



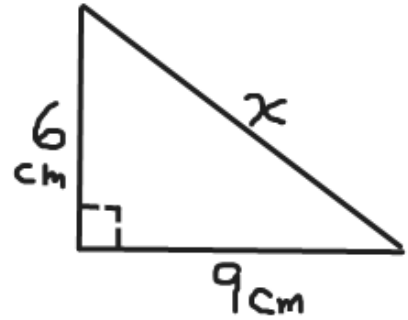
P = _____ A = _____

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

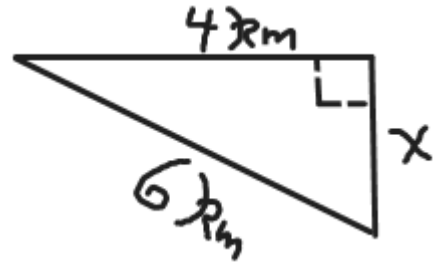
Circumference: _____ Area: _____

4

10. Determine length x



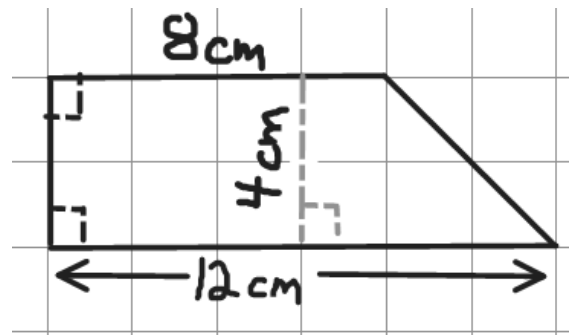
11. Determine length x



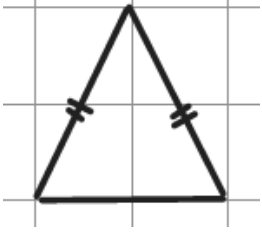
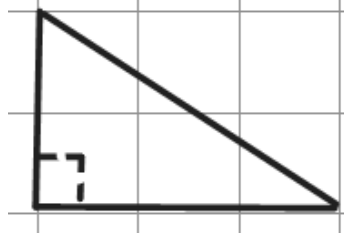
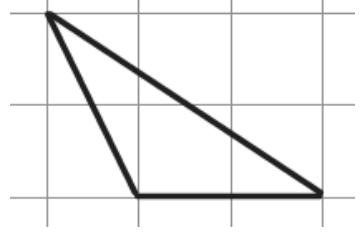
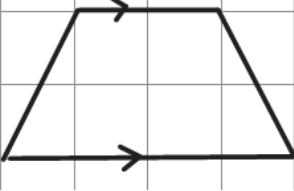
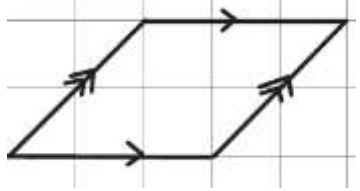

12. Determine the Perimeter and the Area of this irregular shape:

Perimeter: _____

Area: _____



13. Name the following shapes, select the names from the list of names provided.

		
Name↑:	Name↑:	Name↑:
		
Name↑:	Name↑:	Name↑:

Names List: Right Triangle, Pentagon, Parallelogram, Isosceles Acute Triangle, Obtuse Scalene Triangle, Trapezoid

13. **Problem Solve.** 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.

Make a list

BONUS QUESTIONS (Extra 1 mark each if you need them)

a. **Problem Solve.** There are five students at an indigenous conference. Everyone shakes hands with everyone else. How many handshakes will there be?

Bonus. Fractions. You may be only faintly aware of how to do fractions but give these a try. Use a calculator for these ↓ if necessary (for now)

b. Add and simplify if necessary:

$$\frac{1}{5} + \frac{3}{5} =$$

$$\frac{3}{8} + \frac{1}{8} =$$

c. Simplify (reduce): example: $9/27^{\text{th}}$ is really $1/3$.

$$\frac{30}{40} =$$

$$\frac{105}{175} =$$

d. **Bonus (2 marks).** Draw a picture of a big rectangle with a small shaded-in semi-circle in the top left corner and a cute little puppy inside an equilateral triangle in the bottom right corner of the rectangle.

You are doing great. Your math skills are growing!