

**GRADE 12 APPLIED
WEEKLY QUIZ WEEK 8 (OPTIONAL)**

Name: _____

Date: _____

SUBMIT by 09:30 MONDAY! By hand; by scan, send, ...

This is an **optional** quiz.

- Designed to elevate those with a lower overall mark by ~3 to 5%.
- Those with a better mark it will just 'lock-in' the better mark even stronger.
- Those who do not do the quiz (or do worse than their current course average) their overall mark will not be affected.

Show work for each question. Simply stating an answer gets zero marks. If a simple statement of the answer is sufficient the question will clearly say so.

Each individual question is worth two marks unless otherwise indicated.

Round all decimal and percent answers to nearest 0.01 unless otherwise indicated.

Take-home. So obviously Open Book!

1. If there are 14 runners entered in a race, in how many ways can first, second, and third place prizes be awarded?

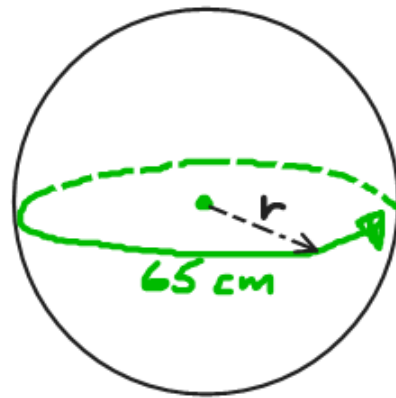
2. How many distinguishable arrangements are there of all the letters in the words:

a. **BANNOCK**

b. **OGOPOGO**

3. If MrF has a class of 10 students and he must select a group of three of them to go upstairs to set up chairs, calculate how many different groups he can select.

4. A ball has a circumference of 65 cm. Determine the ball's radius, to the nearest tenth of a cm.



5. Given that $2x + 3 = 49$, showing the proper algebra method, determine the value of x . [ie: 'Solve for x '] [2 pizzas plus + \$3 coke costs \$49]

6. When Dennis turns 21, his parents give him money that they had invested for him when he was born. They invested the money in a savings account that had an interest rate of 7.2% compounded daily. If they give him \$22,675.59, how much had they initially invested 21 years before? [Show a hand-drawn screenshot of your TVM App entries and solution]

7. Danny deposits \$100 monthly in a retirement fund at the end of every month. His bank offers an interest rate of 5.2%, compounded monthly. If he plans on retiring in 14 years, find:

- a) Determine how much his investment will be worth when he is ready to retire.
- b) Determine how much interest his investment earns over the 14 years.

[Show a hand-drawn screenshot of your TVM App entries and solution]

8. Given the function $f(x) = 150 * 2^x$; using a graphing tool

a. **State** the Domain: { _____ < x < _____ }

b. **State** the Range: { _____ < f(x) < _____ }

c. Evaluate the function for $x = 2.5$ [ie: determine $f(2.5)$] and **state** the answer: $f(2.5) =$ _____

d. **Solve** for x: $590 = 150 * 2^x$. **State** the solution(s)

x = _____

9. For the following **quadratic** function:

$$f(x) = -1x^2 + 4x + 5$$

a. Make a representative sketch of the function. Significant points should be in correct quadrants.

b. **State** the Domain and the Range

{ _____ < x < _____ }

{ _____ < f(x) < _____ }

c. Indicate on the sketch and **state** the following.

Vertex: (_____, _____)

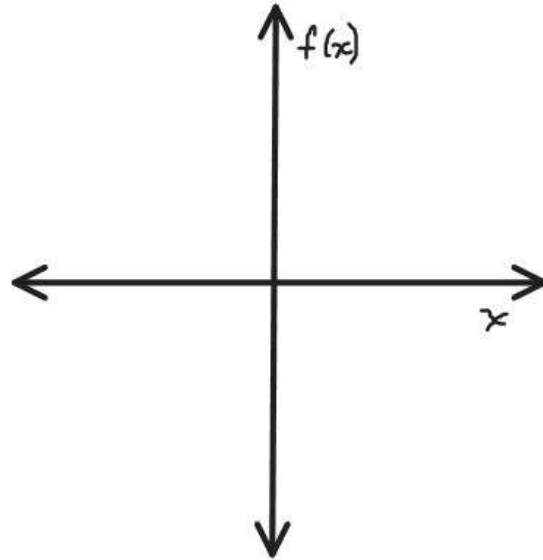
Axis of Symmetry: x = _____

d. Indicate on the sketch and state:

y – intercept: (_____, _____)

'zeros' [x- intercept(s)] if any

(_____, _____) ; (_____, _____)



e. State the minimum *or* maximum value of the function: _____

f. **Solve** for x and state the answer below:

$$5 = -1x^2 + 4x + 5$$

x = { _____ , _____ }

g. **Evaluate** the function for $x = 7$ and state the answer:

$f(7) =$ _____