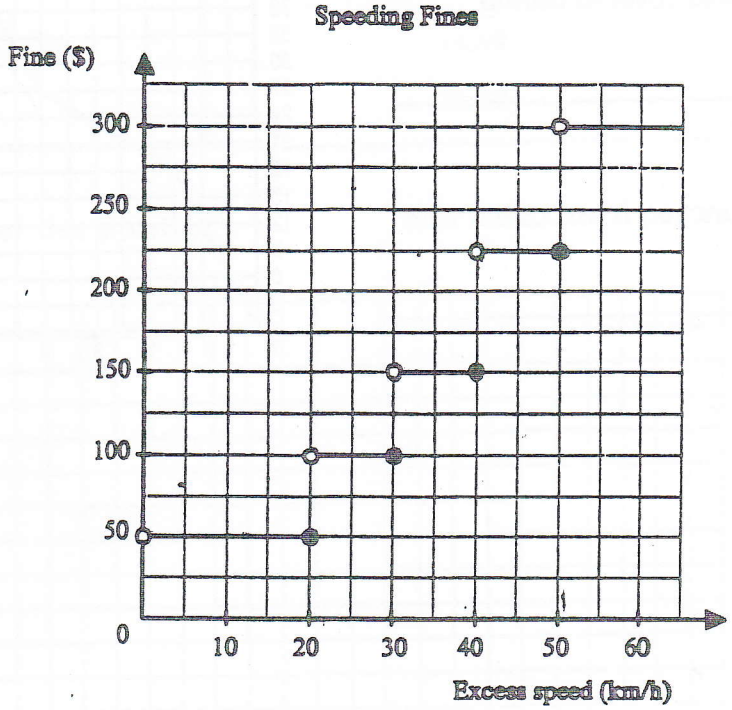
Math 406

Name: _____ Date: _____

1. The maximum speed allowed on a certain street is 50 km/h. Those motorists caught exceeding this speed limit are fined by the police.

The relationship between the excess speed, in kilometres per hour, and the amount of the fine, in dollars, is shown in the graph below.



Which of the following statements is TRUE?

A) A motorist driving at 50 km/h will be fined $50.

B) A motorist driving at 70 km/h will be fined $100.

C) A motorist driving at 90 km/h will be fined $225.

D) A motorist driving at 110 km/h will be fined $300.

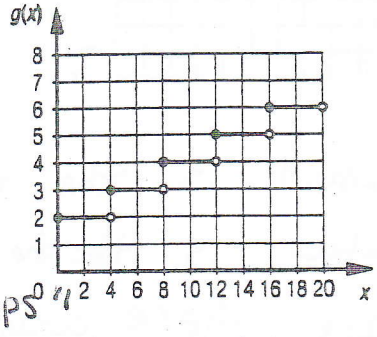
2. For the adjacent step function, determine:

a) the range _____

when $x \in [0, 20[$

b) the critical values _____

(the x values when the function "jumps")



3.

Marc-Antoine participated in the Montréal Marathon. The graph below represents how far he ran during the marathon in relation to time.

a) How long did it take Marc-Antoine to complete the race?

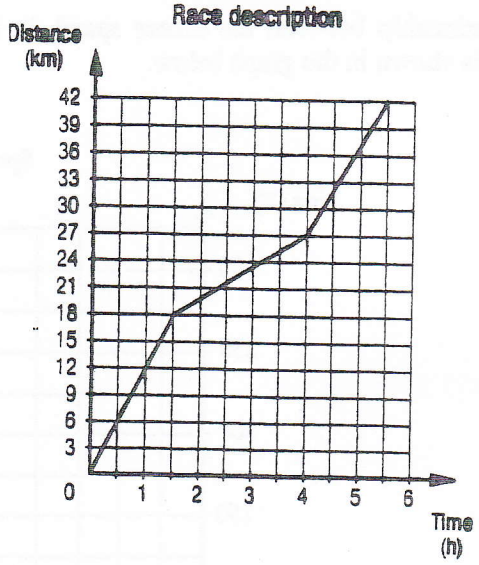
_____

b) What distance was covered during the run?

_____

c) What type of function is associated with this situation?

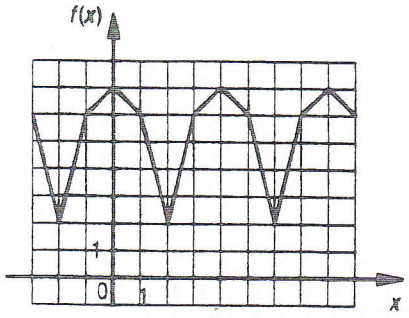
_____



d) $f(4) =$ _____

4.

Below is a periodic function:



a) Determine period P : _____

b) Determine the value of :

1) $f(3)$ _____

2) $f(38)$ _____

c) what is the range? _____

d) what is ~~the~~ the maximum ? _____

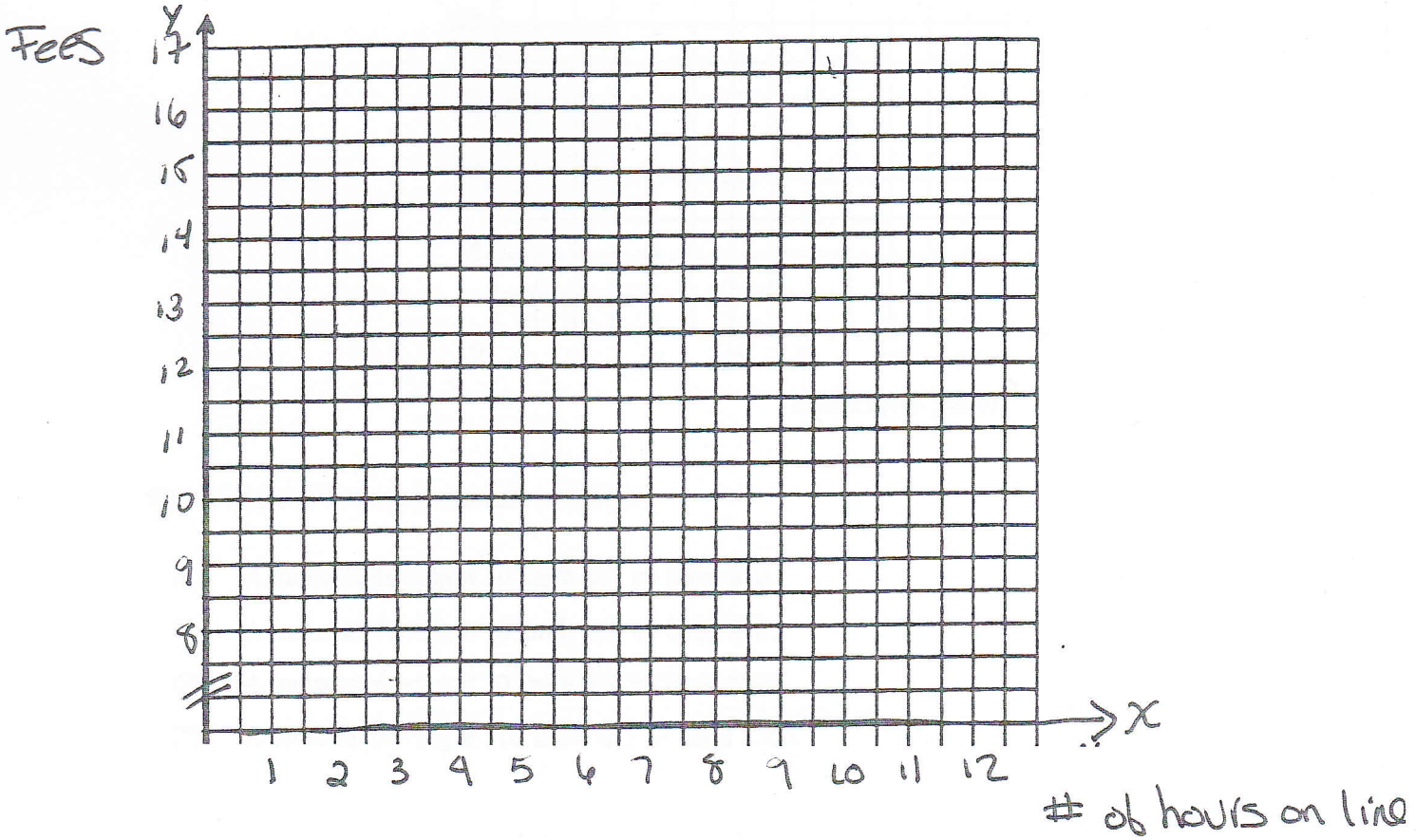
e) are there any ~~zeros~~ zeroes ? _____

5. Mary recently purchased a laptop computer and wants to have the Internet. She signs up with the "NetPlus" provider.

The monthly fees for a first-time user are listed below:

Number of hours on line	Fees ($)
[0,7]	10.00
]7,8]	11.50
]8,9]	13.00
]9,10]	14.50
]10,11]	16.00

Draw the graph of this situation



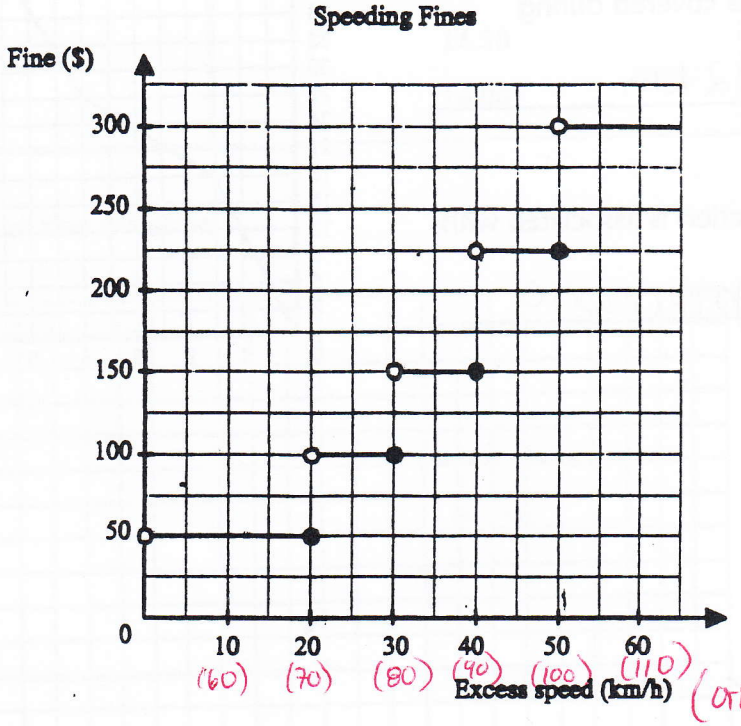
Math 406

Date: _____

Name: Answers

1. **The maximum speed allowed on a certain street is 50 km/h. Those motorists caught exceeding this speed limit are fined by the police.**

The relationship between the excess speed, in kilometres per hour, and the amount of the fine, in dollars, is shown in the graph below.



(amount OVER 50km/h)

Which of the following statements is TRUE?

(0)
A) **A motorist driving at 50 km/h will be fined $50.** F

(20)
B) **A motorist driving at 70 km/h will be fined $100.** F

(40)
C) **A motorist driving at 90 km/h will be fined $225.** F

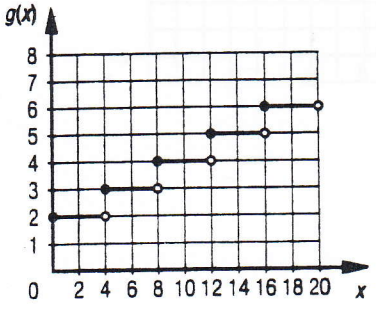
(60)
D) **A motorist driving at 110 km/h will be fined $300.** T

~~2.~~ SKIP!

For the adjacent step function, determine:

a) the range _____

b) the critical values _____



3.

Marc-Antoine participated in the Montréal Marathon. The graph below represents how far he ran during the marathon in relation to time.

a) How long did it take Marc-Antoine to complete the race?

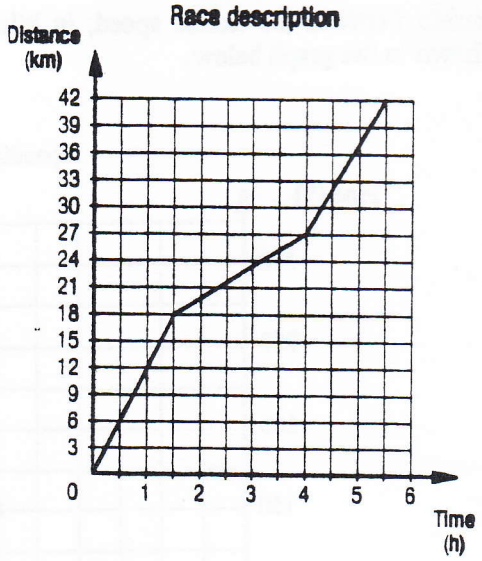
5.5 hrs.

b) What distance was covered during the run?

42 km

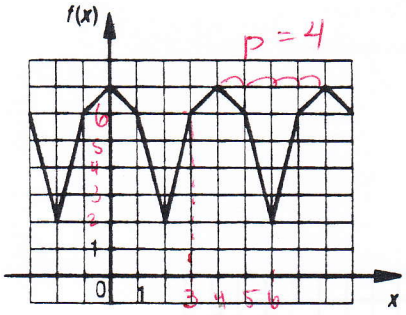
c) What type of function is associated with this situation?

piecewise



4.

Below is a periodic function:



a) Determine period P ; 4

b) Determine the value of :

1) f(3) 6

2) f(38) 2

-4
-4
-4
-4
-4
-4
-4
-4 → f(6) = 2

5. Mary recently purchased a laptop computer and wants to have the Internet. She signs up with the "NetPlus" provider.

The monthly fees for a first-time user are listed below:

Number of hours on line	Fees ($)
[0,7]	10.00
]7,8]	11.50
]8,9]	13.00
]9,10]	14.50
]10,11]	16.00

Draw the graph of this situation