

Warm Up

Grade 9



Write an equation that relates the number of circles, c , to the figure number, f when given the following data.

Figure #	# Circles
<u>1</u>	<u>9</u>
<u>2</u>	<u>13</u>
<u>3</u>	<u>17</u>
<u>4</u>	<u>21</u>

For $n = 3$, solve for each of the following

1) $K = 4n - 1$

2) $W = 10n - 5$

Homework Questions?

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#7

f	s
1	6
2	7
3	8
4	9
5	10

$$S = f + 5$$

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Some Interesting Facts

Built: 1977

Height: 30.48 m.

Capacity: 2273045 liters.



A large water tower holds 15000 liters of water, however during the winter the water tower was damaged and started to leak. This table shows the amount of water every hour after it sprung the leak. The level of water changes at a constant rate.



Time (t hours)	Amount (A Liters)	Amount in Terms of Time
0	15 000	15 000 - 0
1	14 800	15 000 - (1)200
2	14 600	15 000 - (2)200
3	14 400	15 000 - (3)200
4	14 200	15 000 - (4)200

i) Write an expression for the amount in terms of the time since the water tower began to leak.

$$-200t + 15000$$

ii) Write an equation that relates the amount of water to the time since it started leaking.

$$A = -200t + 15000$$

$$0 = -200t + 15000$$

$$-15000 = -200t$$

iii) How much water in in the water tower after 10 hours?

$$\begin{aligned} A &= -200t + 15000 \\ &= -200(10) + 15000 \\ &= -2000 + 15000 \\ &= 13000 \end{aligned}$$

$$75 = t$$

iv) When will the water tower be empty? Solve for t

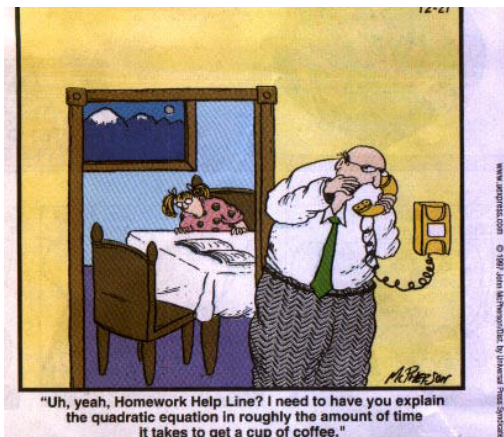
$$0 = -200t + 15000$$

$$0 - 15000 = -200(t)$$

$$-15000 = -200(t)$$

$$\frac{-15000}{-200} = \frac{-200(t)}{-200}$$

$$75 = t$$



$$C = 15.75h + 8.00$$

A Math tutor charges \$15.75 for each hour and a fixed cost of \$8.00.

i) Write an equation that relates the cost to the hours hired

$$\text{Total Cost} = 15.75(h) + 8$$

$$\text{Total} = \text{rate}(h) + \text{flat charge}$$

ii) How much will a tutor cost for 4 hours?

$$\text{Total Cost} = 15.75(h) + 8$$

$$= 15.75(4) + 8$$

$$= 63 + 8$$

$$= 71$$

Class/Homework

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10 all parts	16
11) a, b, c	20
12) a, b	
14	
15	