

Jaden's Phone Plan Learning Task

Name _____ Class Period _____

Jaden has a prepaid phone plan (**Plan A**) that charges 15 cents for each text sent and 10 cents per minute for calls.

1. If Jaden uses only text, write an equation for the cost C of sending t texts.

$$C = .15t$$

- a. How much will it cost Jaden to send 15 texts? Justify your answer.

$$C = .15(15)$$

$$C = \$2.25$$

- b. If Jaden has \$6, how many texts can he send? Justify your answer.

$$\frac{6}{.15} = \frac{.15t}{.15} \quad t = 40 \text{ texts}$$

2. If Jaden only uses the talking features of his plan, write an equation for the cost C of talking m minutes.

$$C = .10m$$

- a. How much will it cost Jaden to talk for 15 minutes? Justify your answer.

$$C = .10(15)$$

$$C = \$1.50$$

- b. If Jaden has \$6, how many minutes can he talk? Justify your answer.

$$\frac{6}{.10} = \frac{.10m}{.10} \quad m = 60 \text{ minutes}$$

3. If Jaden uses both talk and text, write an equation for the cost C of sending t texts and talking m minutes.

$$C = .15t + .10m$$

- a. How much will it cost Jaden to send 7 texts and talk for 12 minutes? Justify your answer.

$$C = .15(7) + .10(12) \quad C = \$2.25$$

- b. If Jaden wants to send 21 texts and only has \$6, how many minutes can he talk? Will this use all of his money? If not, will how much money will he have left? Justify your answer.

$$\begin{aligned}
 6 &= .15(21) + .10m \quad \therefore \boxed{\begin{array}{l} 28 \text{ minutes} \\ \$.05 \text{ left over} \end{array}} \\
 6 &= 3.15 + .10m \\
 \begin{array}{r} -3.15 \quad -3.15 \\ \hline 2.85 = .10m \\ \hline = m \\ = m \\ = m \end{array} & \quad m = 28.5 \\
 \text{Cost} &= .15(21) + .10(28) \\
 &= 5.95
 \end{aligned}$$

Jaden discovers another prepaid phone plan (**Plan B**) that charges a flat fee of \$15 per month, then \$.05 per text sent or minute used.

4. Write an equation for the cost of Plan B.

x = texts or minutes

C = cost

$$C = .05x + 15$$

In an average month, Jaden sends 200 texts and talks for 100 minutes.

5. Which plan will cost Jaden the least amount of money? Justify your answer.

Plan A

$$\begin{aligned}
 C &= .15t + .10m \\
 &= .15(200) + .10(100)
 \end{aligned}$$

$$C = \$40$$

Plan B is cheaper.

Plan B

$$\begin{aligned}
 C &= .05x + 15 \\
 C &= .05(300) + 15 \\
 C &= \$30
 \end{aligned}$$