A cell phone company is offering a phone plan where it costs a fixed fee of $50 and it costs $25 per GB of data.

a.) Let x represent the number of GB used and y represent the total monthly cost in dollars. Construct a function to model the relationship between GB used and total cost.

**y = 25x + 50**

b.) Determine the cost of using 5 GB of data.

**25(5) + 50**

**125 + 50 = $175**

iTunes is offering a monthly subscription service where it costs $0.75 per song and a fixed fee of $6.

a.) Let x represent the number of songs downloaded and y represent the total monthly cost in dollars. Construct a function to model the relationship between songs downloaded and total cost.

**y = 0.75x + 6**

b.) Determine the cost of downloading 15 songs.

**0.75(15) + 6**

**11.25 + 6 = $17.25**

A rental car company offers the following two pricing methods to choose from for a daily rental:

Method 1: Pay $250 for one day, or

Method 2: Pay $10 per hour plus a fixed fee of $35

a.) Write a linear function that models method 2.

**y = 10x + 35**

b.) If you plan to rent a car for 12 hours, which method would you choose? Explain.

**10(12) + 35 = 120 + 35 = $155 Method 2 would be better because it only costs $155.**

A bike shop offers the following two pricing methods to choose from for rentals:

Method 1: Pay $100 per week, or

Method 2: Pay $15 per day plus a fixed fee of $20

a.) Write a linear function that models method 2.

**y = 15x + 20**

b.) If you plan to rent a bike for 6 days, which method would you choose? Explain.
**15(6) + 20 = 90 + 20 = 110 Method 1 would be better because it only costs $100.**

John wants to download movies from a website that offers a $5 fixed fee for a monthly subscription plus a fee of $1.50 per movie. Michael wants to download movies from a website that has a fixed fee of $10 for a monthly subscription plus $1 per movie.

a.) Write a linear equation that represents the cost of downloads from **each** website.

**John: y = 1.50x + 5 Michael: y = 1x + 10**

b.) Which line would have a steeper slope? What does a steeper slope mean?

**John would have a steeper slope because it costs more per movie.**

c.) Which website would be better to use if you only wanted to download 6 movies per month?

 **John: 1.50(6) + 5 = 9 + 5 = 14 Michael: 1(6) + 10 = 16**

**John is better.**

d.) Which company would you choose if you wanted to download 17 movies per month?

**John: 1.50(17) + 5 = 25.50 + 5 = 30.50 Michael: 1(17) + 10 = 17 + 10 = 27**

**Michael is better.**

Kara wants to download games from a website that offers a $10 fixed fee for a monthly subscription plus a fee of $2 per game. Stacy wants to download games from a website that has a fixed monthly fee of $5 plus a fee of $3 per game.

a.) Write a linear equation that represents the cost of downloads from **each** website.

**Kara: y = 2x + 10 Stacy: y = 3x + 5**

b.) Which line would have a slope that is less steep? What does a less steep slope mean?

**Kara has a less steep slope because it costs less per download.**

c.) Which website would be better to use if you only wanted to download 3 games per month?

**Kara: 2(3) + 10 = 6 + 10 = 16 Stacy: 3(3) + 5 = 9 + 5 = 14**

**Stacy is better.**

d.) Which company would you choose if you wanted to download 11 games per month?

**Kara: 2(11) + 10 = 22 + 10 = 32 Stacy: 3(11) + 5 = 33 + 5 = 38**

**Kara is better.**