

### BATTLE OF THE DOWNLOADS

#### Website A

[www.TightTunes.com](http://www.TightTunes.com)

Tight Tunes charges their customers \$2 per song downloaded.

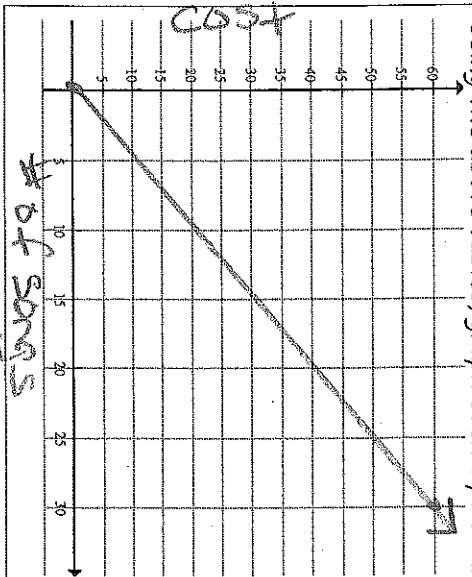
Write a function rule that represents cost,  $c$ , in terms of the number of songs downloaded,  $n$ .

Website A:  $C = 2n$

Using your equation, find the cost for certain numbers of song downloads for each website.

# of songs downloaded	cost
0	0
1	2
5	10
10	20
20	40
30	60
$n$	$2n$

Using the above tables, graph each equation.



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#### Website B

[www.DynamiteDownloads.com](http://www.DynamiteDownloads.com)

Dynamite Downloads charges a \$10 registration fee to become a member and \$1.50 per song downloaded.

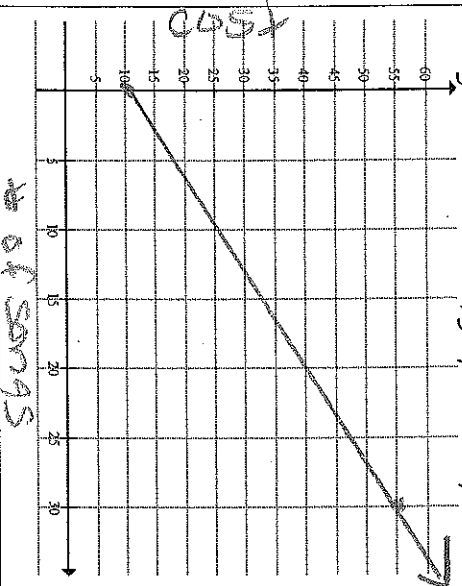
Write a function rule that represents cost,  $c$ , in terms of the number of songs downloaded,  $n$ .

Website B:  $C = 1.50n + 10$

Using your equation, find the cost for certain numbers of song downloads for each website.

# of songs downloaded	cost
0	10
1	11.50
5	17.50
10	25
20	40
30	55
$n$	$1.5n + 10$

Using the above tables, graph each equation.



### BATTLE OF THE DOWNLOADS

#### Website C

[www.MusicMania.com](http://www.MusicMania.com)

Music Mania charges \$1 per song downloaded as long as you pay the sign-up fee of \$15.

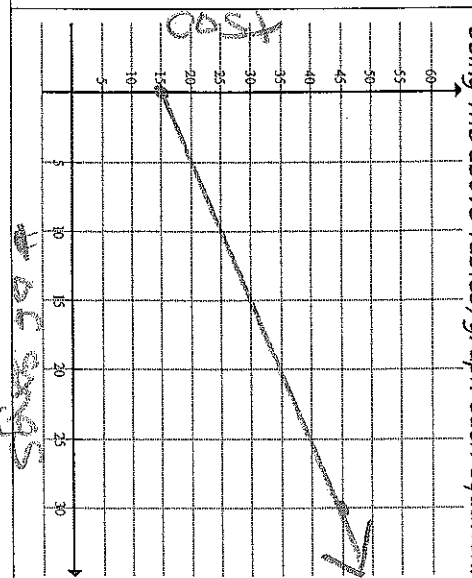
Write a function rule that represents cost,  $c$ , in terms of the number of songs downloaded,  $n$ .

Website C:  $C = n + 15$

Using your equation, find the cost for certain numbers of song downloads for each website.

# of songs downloaded	cost
0	15
1	16
5	20
10	25
20	35
30	45
$n$	$n + 15$

Using the above tables, graph each equation.



# Key

Name: \_\_\_\_\_ Date: \_\_\_\_\_ Period: 7th

## Introduction to Linear Systems

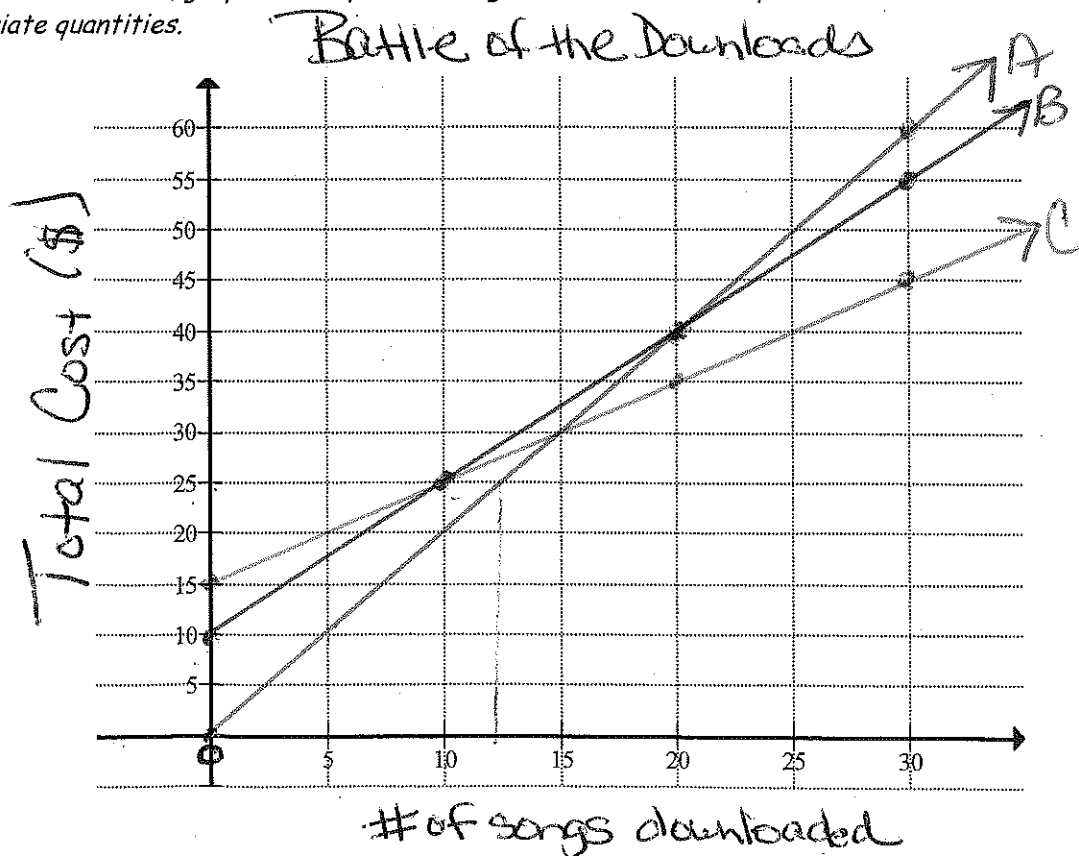
### Comparing Offers-classwork

From the description for the three offers, complete the table to find an algebraic rule that will determine the cost of  $n$  downloads.

# of songs downloads	$C = 2n$ A Cost of Tight Tunes	$C = 1.50n + 10$ B Cost of Dynamite Downloads	$C = n + 15$ C Cost of Music Mania
0	0	10	15
1	2	11.50	16
5	10	17.50	20
10	20	25	25
20	40	40	35
25	50	47.50	40
30	60	55	45
$n$	$2n$	$1.50n + 10$	$n + 15$

### Using Graphs to Compare Offers

Using the above table, graph each equation using a different colored pencil. Label the x-axis and y-axis with the appropriate quantities.



Key

### Compare Tight Tunes and Dynamite Downloads

1. How many songs can you download from Tight Tunes for \$10.00?

With \$10 you can download 5 songs

2. How many songs can you download from Dynamite Downloads for \$10.00?

With \$10 you can download 0 songs.

3. Which company offers the best deal for \$10.00?

Tight Tunes has the best deal for \$10.

4. How many songs can you download from Tight Tunes for \$25.00?

You can download 12 songs

5. How many songs can you download from Dynamite Downloads for \$25.00?

You can download 10 songs.

6. Which company offers the best deal for \$25.00?

Tight Tunes has the best deal for \$25.

7. Is there a point where the two companies charge the same total amount for the same number of songs downloaded? If so, write the point as an ordered pair and explain what it represents in this situation.

Yes at (20, 40) where both can download 20 songs for \$40.

8. Write an equation where the two companies charge the same amount. (cost is equal)

$$2n = 1.50n + 10$$

### Compare Dynamite Downloads and Music Mania

1. Is there a point where the Dynamite Downloads and Music Mania charge the same total amount for the same number of songs downloaded? If so, write the point as an ordered pair and explain what it represents in this situation.

Yes at (10, 25) ~~at \$25~~ this point is where they both cost \$25 for 10 songs

2. Write an equation where the Dynamite Downloads and Music Mania charge the same amount.

$$1.50n + 10 = n + 15$$