



# Musical Maths

The Brassketeers

# Musical Maths

(Early Level)



Today we are learning to be **musical math-e-magicians**.

We are turning musical notes into calculations.

# Musical Maths

(Early Level)



Here is a pattern of notes.



# Musical Maths

(Early Level)



We are going to use the number of beats in each note to make a calculation.



**1 beat**

**1 beat**

**2 beats**

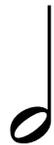
$$1 + 1 + 2 = ?$$

# Musical Maths

(Early Level)



We are going to use the number of beats in each note to make a calculation.



**1 beat**

**1 beat**

**2 beats**

$$1 + 1 + 2 = 4 \text{ beats in total}$$

# Musical Maths

(Early Level)



Here is a new pattern of notes.



What would the calculation be this time?

# Musical Maths

(Early Level)



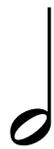
Here is a new pattern of notes.



**4 beats**



**2 beats**



**2 beats**

$$4 + 2 + 2 = 8 \text{ beats in total}$$

# Musical Maths

(Early Level)



Here is a new pattern of notes.



What would the calculation be this time?

# Musical Maths

(Early Level)



Here is a new pattern of notes.



**2 beats**



**4 beats**



**1 beat**



**1 beat**

$$2 + 4 + 1 + 1 = 8 \text{ beats in total}$$

# Musical Maths

(First Level)



Here is a new pattern of notes.



How are we going to count these?

# Musical Maths

(First Level)



**1 beat**



**1 beat**



**1/2 beat**

$$1 + 1 + \frac{1}{2} = 2\frac{1}{2} \text{ beats in total}$$

# Musical Maths

(First Level)



What about this pattern?



# Musical Maths

(First Level)



$\frac{1}{2}$  beat  $\frac{1}{2}$  beat

$\frac{1}{2}$  beat  $\frac{1}{2}$  beat

$\frac{1}{2} + \frac{1}{2} + \frac{1}{2} + \frac{1}{2} = 2$  beats in total

# Musical Maths

(First Level)



Is there another way we could count this?



$\frac{1}{2}$  beat  $\frac{1}{2}$  beat



$\frac{1}{2}$  beat  $\frac{1}{2}$  beat

# Musical Maths

(First Level)



$\frac{1}{2}$  beat  $\frac{1}{2}$  beat  
1 beat

$\frac{1}{2}$  beat  $\frac{1}{2}$  beat  
1 beat

1 + 1 = 2 beats in total

# Musical Maths

(First Level)



Here is a calculation with a note missing.



$$2 + 1 + ? = 4 \text{ beats in total}$$

Can you work out which note we need to complete the calculation?

# Musical Maths

(First Level)



We need to add **1 more beat**.



$$2 + 1 + ? = 4 \text{ beats in total}$$

# Musical Maths

(First Level)



Here are two ways we could add **1 more beat**.

We could use a crotchet: 



$$2 + 1 + 1 = 4 \text{ beats in total}$$

# Musical Maths

(First Level)



We could also use a double quaver: 



$$2 + 1 + \frac{1}{2} \text{ beat } \frac{1}{2} \text{ beat} = 4 \text{ beats in total}$$

# Musical Maths

(First Level Ext.)



Now we are moving on to the **mega musical math-e-magic challenge!**

We are going to use our powers of **counting and music** to make missing bar lines reappear.

# Musical Maths

(First Level Ext.)



Quick quiz question:

How many **beats** in a **single bar of music**?

# Musical Maths

(First Level Ext.)



Quick quiz question:

How many **beats** in a **single bar of music**?

**4 beats altogether.**

# Musical Maths

(First Level Ext.)



There are **4 beats** in a **single bar of music**.

## Challenge 1:

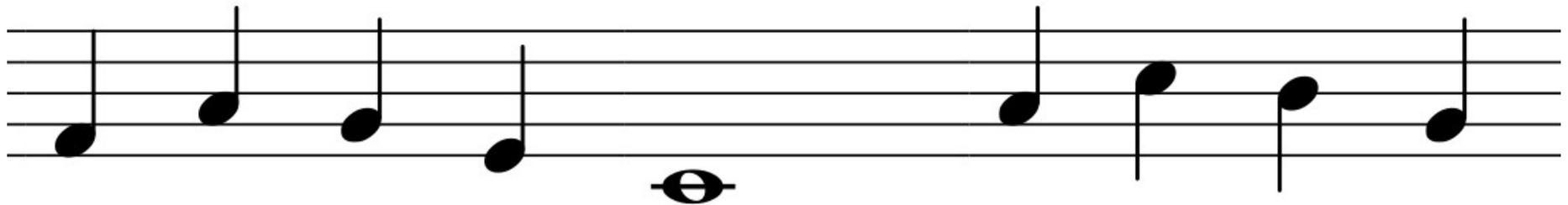
How many different ways can you make **4 beats** using our musical notes?

# Musical Maths

(First Level Ext.)



Here is some music without any bar lines to divide the notes up.



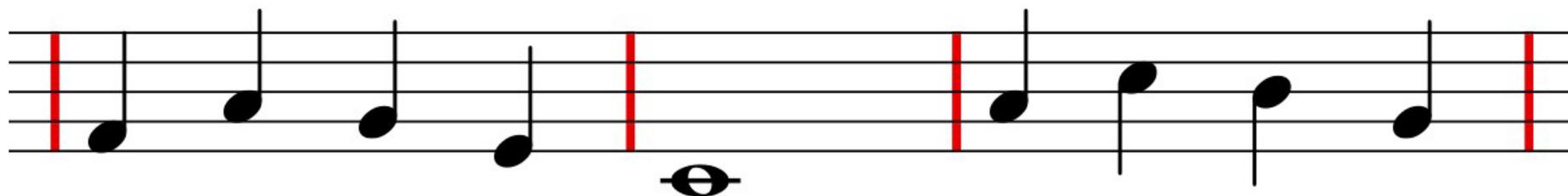
Can you be a musical math-e-magician and work out where the bar lines should be?

# Musical Maths

(First Level Ext.)



Let's make the bar lines appear.



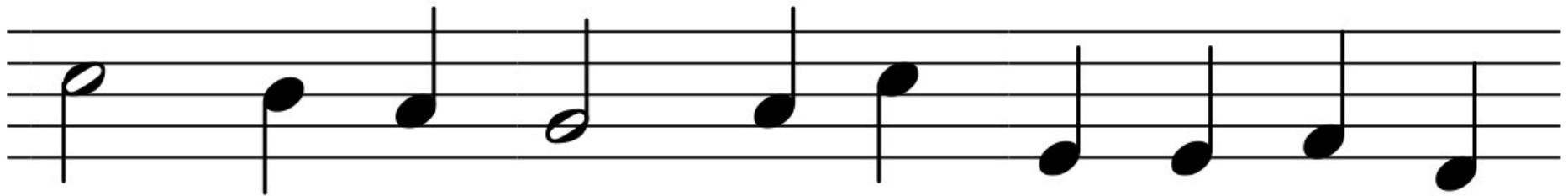
Did we put them in the correct places?

# Musical Maths

(First Level Ext.)



Here is another piece of music with missing bar lines.



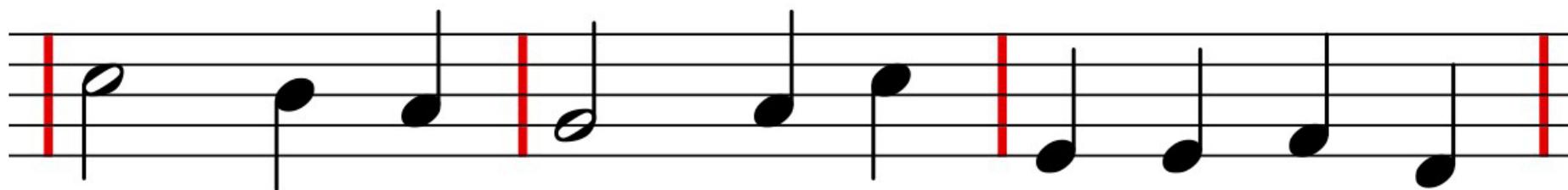
Can you be a musical math-e-magician and work out where the bar lines should be?

# Musical Maths

(First Level Ext.)



Let's make the bar lines appear.



Did we put them in the correct places?

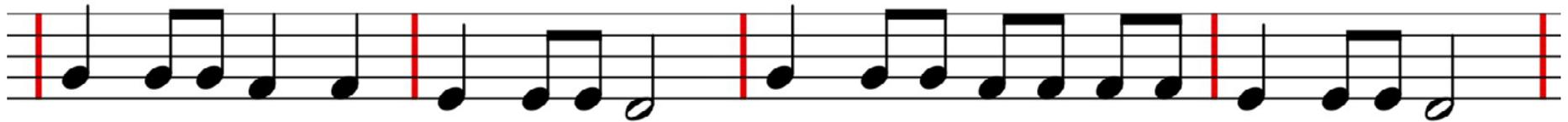


# Musical Maths

(First Level Ext.)



Let's make the bar lines appear.



Did we put them in the correct places?



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