Sierra Leone

WINNING TEAMS: Mathematics

Questions for teams

Primary 6 (Term 2) to support JSS1 Term 2

Leh Wi Lan

Numbers and Numeration; Decimals & Percent (M-06-096) **CODE BB1**	Numbers and Numeration; Decimals & Percent (M-06-097) **CODE BB5**
Lesson Title: Conversion from Fractions to Decimals	Lesson Title: Conversion from Decimals to Fractions
Using the **long division** method, convert the fraction $\frac{4}{5}$ into a decimal number up to the thousandths place. 2 minutes	Convert the decimal numbers below into simple fractions: a) 0.250 b) 0.78 2 minutes
Numbers and Numeration; Decimals & Percent (M-06-096) **CODE BB2**	Numbers and Numeration; Decimals & Percent (M-06-097) **CODE BB6**
Lesson Title: Conversion from Fractions to Decimals	Lesson Title: Conversion from Decimals to Fractions
Using the long division method; convert the fraction $\frac{19}{25}$ into a decimal number up to the **thousandths place.** 2 minutes	Convert the decimal numbers below into improper fractions: a) 0.66 b) 0.88 2 minutes
Numbers and Numeration; Decimals & Percent (M-06-096) **CODE BB3**	Numbers and Numeration; Decimals & Percent (M-06-097) **CODE BB7**
Lesson Title: Conversion from Fractions to Decimals	Lesson Title: Conversion from Decimals to Fractions
Using long division, convert the fraction $\frac{2}{3}$ into a **recurring decimal number.** 2 minutes	Convert the decimal numbers below into mixed fractions: a) 5.10 b) 11.7 2 minutes

Numbers and Numeration; Decimals & Percent (M-06-096) **CODE BB4**	Numbers and Numeration; Decimals & Percent (M-06-098) **CODE BB8**
Lesson Title: Conversion from Fractions to Decimals	Lesson Title: Conversion from Fractions to Percentages
Using long division, convert the mixed fraction $3\frac{4}{3}$ into a decimal number up to the **thousands place**. Tip: Convert the mixed fraction into an improper fraction, then use long division. 2 minutes	Explain the word **percentage**. 30 seconds
Numbers and Numeration; Decimals & Percent (M-06-098) **CODE BB9**	N&N; Everyday Arithmetic; Ratio and Proportion (M-06-136) **CODE BB13**
Lesson Title: Conversion from Fractions to Percentages	Lesson Title: Proportion and Fractions
Convert the fractions into percentages: a) $\frac{14}{20}$ b) $\frac{6}{15}$ 2 minutes	Complete the sentence: When two fractions are_____, we say they are in proportion. 30 seconds
Numbers and Numeration; Decimals & Percent (M-06-098) **CODE BB10**	N&N; Everyday Arithmetic; Ratio and Proportion (M-06-136) **CODE BB14**
Lesson Title: Conversion from Fractions to Percentages	Lesson Title: Proportion and Fractions
Convert the percentages below into simple fractions: a) 120% b) 75% 2 minutes	The following fractions are equivalent. Using proportions, find the values of x and y a) $\frac{x}{6}$ and $\frac{1}{3}$ b) $\frac{3}{15}$ and $\frac{1}{y}$ 2 minutes

Numbers and Numeration; Decimals & Percent (M-06-099) **CODE BB11**

Lesson Title: Conversion from Percentages to Decimals

Convert the following percentages into decimal numbers:

a) 175%

b) 13%

2 minutes

Numbers and Numeration; Decimals & Percent (M-06-100) **CODE BB12**

Lesson Title: Conversion from Decimals to Percentages

Convert the following decimal numbers into percentages:

a) 1.230

b) 0.74

2 minutes

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-136) **CODE BB15**

Lesson Title: Proportion and Fractions

The following fractions are equivalent.
Using proportions, find the values of v and q.

a) $\frac{20}{100}$ and $\frac{v}{5}$

b) $\frac{75}{q}$ and $\frac{3}{2}$

2 minutes

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-137) **CODE BB16**

Lesson Title: Proportion and Fractions

In the class, there is a ratio of 3 boys : 2 girls.
This means that _____

30 seconds

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-137) **CODE BB17**

Lesson Title: Proportion and Fractions

I have a bag containing red and blue marbles. The bag has a total of 15 red marbles and 9 blue marbles.

a) Determine the **simple fraction** that relates the number of blue marbles to the number of red marbles inside the bag.

b) Determine the ratio of blue to red marbles in its simplest form.

2 minutes

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-139) **CODE BB21**

Lesson Title: Proportion and Fractions

If the ratios $\mathbf{2 : y}$ and $\mathbf{18 : 81}$ are equivalent, find the value of $\boldsymbol{y}$.

1 minute

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-137) **CODE BB18**

Lesson Title: Proportion and Fractions

The ratio of bananas to melons is given as $\mathbf{30 : 1}$.

If there are 300 bananas, how many melons are there?

$1\frac{1}{2}$ minutes

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-140) **CODE BB22**

Lesson Title: Writing ratio in its simplest form.

Write the following ratios in their simplest form:

a) Garry practices 200 math sums in 240 minutes

b) 24 blue cars out of 30 cars

c) 16 blue lollipops to 24 lollipops

2 minutes

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-138) **CODE BB19**	N&N; Everyday Arithmetic; Ratio and Proportion (M-06-141) **CODE BB23**
Lesson Title: Equivalent ratio	Lesson Title: Sharing Quantities Using Ratio
Pick three ratios that are equivalent to $\mathbf{4 : 3}$ a) $8 : 6$ b) $9 : 12$ c) $20 : 15$ d) $32 : 24$ e) $36 : 28$ 2 minutes	Work out each of the following problems. a) Divide $315ml$ in the ratio $2 : 7$ b) Share 120 hours in the ratio $5 : 8$ c) Divide Le $240{,}000$ in the ratio $1 : 3$ 2 minutes
N&N; Everyday Arithmetic; Ratio and Proportion (M-06-138) **CODE BB20**	N&N; Everyday Arithmetic; Ratio and Proportion (M-06-141) **CODE BB24**
Lesson Title: Equivalent ratio	Lesson Title: Sharing Quantities Using Ratio
Which of the following ratios is equivalent to $\mathbf{27 : 9}$? a) $9 : 6$ b) $3 : 1$ c) $1 : 3$ 30 seconds	Pearl has 60 sweets. The ratio of red sweets to green sweets is 3 : 2 . How many red sweets does Pearl have? 2 minutes
N&N; Everyday Arithmetic; Ratio and Proportion (M-06-142) **CODE BB25**	N&N; Everyday Arithmetic; Ratio and Proportion (M-06-146) **CODE BB29**
Lesson Title: Word Problems with Ratio	Lesson Title: Solving Word Problems Involving Fractions
If Solly drew 10 squares and 30 triangles, then: a) What is the ratio of squares to triangles in **simplest** form? b) What is the ratio of triangles to all shapes in **simplest** form? 2 minutes	Martha spent $\frac{4}{9}$ of her allowance on food and shopping. What fraction of her allowance is left over? 1 minute
N&N; Everyday Arithmetic; Ratio and Proportion (M-06-143) **CODE BB26**	N&N; Everyday Arithmetic; Ratio and Proportion (M-06-148) **CODE BB30**
Lesson Title: Direct Proportion	Lesson Title: Solving Word Problems Involving Percentages
Rose gets paid Le 15,000 for each hour she works. If she works 45 hours per week, how much does she earn each week? 2 minutes	Out of 400 learners who took an IQ test, 240 achieved an above average score. What percentage of the learners achieved an above average score? $1\frac{1}{2}$ minutes

N&N; Everyday Arithmetic; Ratio and Proportion (M-06-146) **CODE BB27**	Theme: Everyday Arithmetic; Percentages (M-06-101) **CODE BB31**
Lesson Title: Solving Word Problems Involving Fractions	Lesson Title: Percentage of a Quantity – Simple Problems
Terrence won Le 123,000 from a Saturday night game show. He decides to invest $\frac{3}{4}$ of his winnings and spends the rest with his family. a) How much of the winnings did he invest? b) How much of the winnings did he spend with his family? 2 minutes	Work out each of the following problems: a) Find 10% of 20 km b) Find 16% of 15 cm 1 minute
N&N; Everyday Arithmetic; Ratio and Proportion (M-06-146) **CODE BB28**	Theme: Everyday Arithmetic; Percentages (M-06-102) **CODE BB32**
Lesson Title: Solving Word Problems Involving Fractions	Lesson Title: Percentage of a Quantity – More Problems
A man spends $\frac{2}{5}$ of his salary on house rent, $\frac{3}{10}$ of his salary on food and $\frac{1}{8}$ of his salary on clothes altogether. What fraction of his salary did he spend? $1\frac{1}{2}$ minutes	Solve the following word problem: A marketplace has a total of 300 stalls available for local vendors to sell their goods. In the first week, 60% of the stalls were occupied. a. Find the actual number of stalls occupied. b. Find the actual number of stalls unoccupied. 2 minutes
Theme: Everyday Arithmetic; Percentages (M-06-102) **CODE BB33**	Theme: Everyday Arithmetic; Percentages (M-06-105) **CODE BB37**
Lesson Title: Percentage of a Quantity – More Problems	Lesson Title: Simple Interest
Solve the following word problem: There were 1800 onions in a trader's basket. When he got to market, the trader noticed that 12% of the onions were bad and needed to be thrown away. a. How many onions did the trader throw away? b. If the trader sold 450 onions, what percentage of onions did he manage to sell? 3 minutes	Calculate the following using **Simple Interest**: Sara deposits Le100,000 at a bank at an interest rate of 7% per year. How much money did Sara accumulate after 4 years? 2 minutes
Theme: Everyday Arithmetic; Percentages (M-06-103) **CODE B34**	Theme: Everyday Arithmetic; Percentages (M-06-105) **CODE BB38**
Lesson Title: Profit and Loss as Percentages	Lesson Title: Simple Interest
Work out each of the following problems: a) Increase Le 300 by 20% b) Decrease 20L by 4% 2 minutes	Enrico bought a car for Le 980,392. He took a Le 570,000 loan from a bank at an interest rate of 17% per year for a 3-year period. What is the total amount (interest and loan) that he would have to pay the bank at the end of 3 years? 2 minutes

Theme: Everyday Arithmetic; Percentages (M-06-104) **CODE BB35**	Theme: Everyday Arithmetic; Percentages (M-06-105) **CODE BB39**
Lesson Title: Word Problems Involving Profit and Loss Percentage	Lesson Title: Simple Interest
Solve the following word problem: A family had planted 20 acres of corn. Unfortunately, there was a severe drought and the family **lost** 5% of the harvest. a. How many acres of corn did the family lose because of the drought? b. How many acres of corn was the family able to successfully harvest? 2 minutes	Solve the following word problem using **Simple Interest**: Mrs. Lewis borrowed Le 200,000 from the bank and was charged an interest rate of 15% per year. If she paid the loan off at the end 3 years. a. How much did she pay in total for her loan? b. How much did she pay in interest? 2 minutes
Theme: Everyday Arithmetic; Percentages (M-06-105) **CODE BB36**	Theme: Measurement and Estimation; Length (M-06-057) **CODE BB40**
Lesson Title: Simple Interest	Lesson Title: Conversion from Inches to Feet and Feet to Inches
Write down the formula for calculating **Simple Interest** 30 seconds	State the rule used to convert from feet to inches and from inches to feet. 1 minute
Theme: Measurement and Estimation; Length (M-06-057) **CODE BB41**	Theme: Measurement and Estimation; Length (M-06-059) **CODE BB45**
Lesson Title: Conversion from Inches to Feet and Feet to Inches	Lesson Title: Measuring Objects in Millimetres and Centimetres
Fill in the blank box with the appropriate sign: a. 4 ☐ 12 = $\frac{1}{3}$ feet long b. 25 ☐ 12 = 300 inches long c. 24 ☐ 12 = 2 feet long $1\frac{1}{2}$ minutes	Convert the following centimetres to millimetres or millimetres to centimetres by multiplying or dividing: a. 3 millimetres = ____ centimetres b. 20 centimetres = ____ millimetres c. 17 millimetres = ___ centimetres $1\frac{1}{2}$ minutes
Theme: Measurement and Estimation; Length (M-06-057) **CODE BB42**	Theme: Measurement and Estimation; Length (M-06-060) **CODE BB46**
Lesson Title: Conversion from Inches to Feet and Feet to Inches	Lesson Title: Conversion of Lengths from Metres to Kilometres
When buying a television, the screen size is measured in inches between opposite corners. How many feet across is a 45-inch television? 30 seconds	Complete the rule: To convert from kilometres to metres, we _____. To convert from metres to kilometres, we _____. 30 seconds

Theme: Measurement and Estimation; Length (M-06-058) **CODE B43**

Lesson Title: Measuring Objects in Millimetres and Centimetres

Complete the rule:

To convert from millimetres to centimetres, we _____.

To convert from centimetres to millimetres, we _____.

2 minutes

Theme: Measurement and Estimation; Length (M-06-060) **CODE BB47**

Lesson Title: Conversion of Lengths from Metres to Kilometres

Convert the following centimetres to millimetres or millimetres to centimetres by multiplying or dividing:

a. 24 kilometres = ____ metres

b. 358 metres = ____ kilometres

c. 19 kilometres = ___ metres

2 minutes

Theme: Measurement and Estimation; Length (M-06-059) **CODE BB44**

Lesson Title: Measuring Objects in Millimetres and Centimetres

Complete the equations with multiply (×) or divide (÷):

a. 16 ☐ 10 = $\frac{8}{5}$ centimetres long

b. 40 ☐ 10 = 4 centimetres long

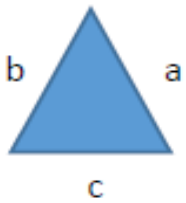
c. 6 ☐ 10 = 60 millimetres long

$1\frac{1}{2}$ minutes

Theme: Geometry Perimeters and Areas (M-06-081) **CODE BB48**

Lesson Title: Perimeter of Shapes

Consider the triangle:



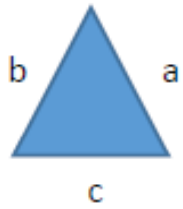
Write down the general formula to calculate the perimeter of the given triangle.

30 seconds

Theme: Geometry Perimeters and Areas (M-06-081) **CODE BB49**

Lesson Title: Perimeter of Shapes

Consider the triangle:



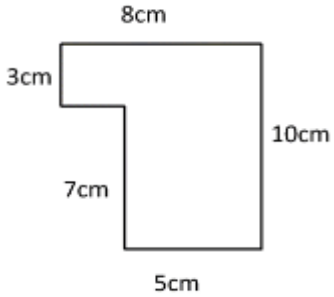
If the perimeter of the triangle is 125cm, determine the expression for **a** in terms of **b** and **c.**

1 minute

Theme: Geometry Perimeters and Areas (M-06-082) **CODE BB53**

Lesson Title: Finding the Perimeter of Irregular Shapes

Consider the irregular shape below:



Calculate the perimeter of the shape.

1 minute

Theme: Geometry Perimeters and Areas (M-06-081) **CODE BB50**

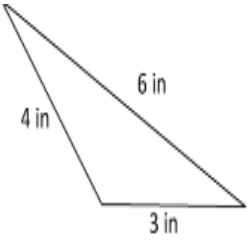
Lesson Title: Perimeter of Shapes

Workout the perimeter of the following shapes:

1)

Perimeter = _____ cm

2)



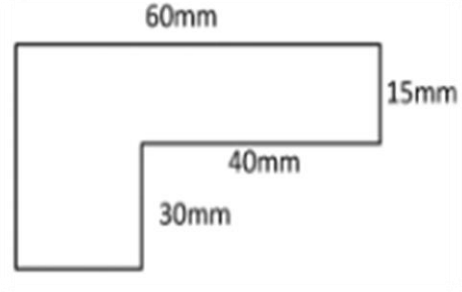
Perimeter = _____ in

2 minutes

Theme: Geometry Perimeters and Areas (M-06-082) **CODE BB54**

Lesson Title: Finding the Perimeter of Irregular Shapes

Consider the irregular shape:



Calculate the perimeter of the shape.

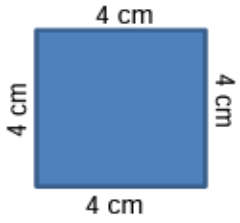
2 minutes

Theme: Geometry Perimeters and Areas (M-06-081) **CODE BB51**

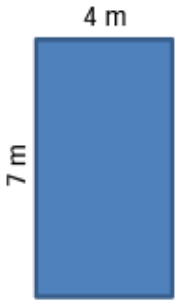
Lesson Title: Perimeter of Shapes

Work out the perimeter of the following shapes:

a)



b)

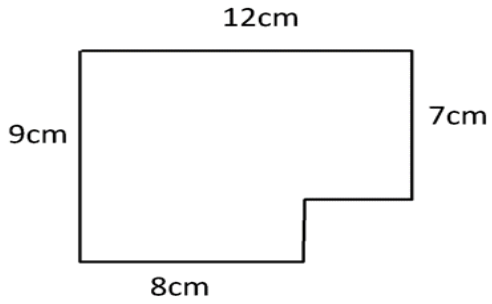


2 minutes

Theme: Geometry Perimeters and Areas (M-06-082) **CODE BB55**

Lesson Title: Finding the Perimeter of Irregular Shapes

Consider the irregular shape:



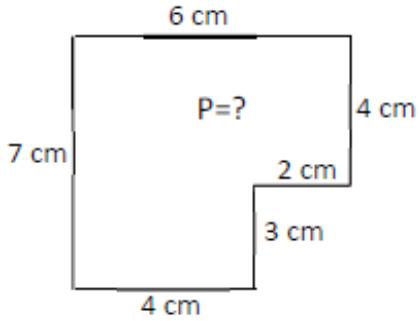
Calculate the perimeter of the shape.

1 minute

Theme: Geometry Perimeters and Areas (M-06-082) **CODE BB52**

Lesson Title: Finding the Perimeter of Irregular Shapes

Consider the irregular shape:



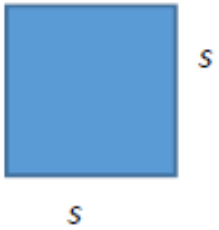
Calculate the perimeter of the shape.

1 minute

Theme: Geometry Perimeters and Areas (M-06-083) **CODE BB56**

Lesson Title: Area of Squares and Rectangles

Consider the square:



Write down the general formula for calculating the area of a square.

1 minute

Theme: Geometry Perimeters and Areas (M-06-083) **CODE BB57**

Lesson Title: Area of Squares and Rectangles

Consider the rectangle:

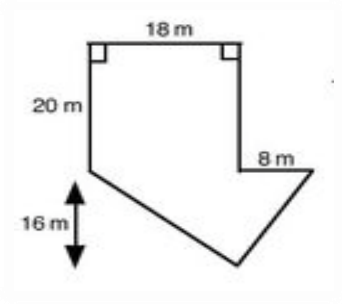
Write down the general formula for calculating the area.

30 seconds

Theme: Geometry Perimeters and Areas (M-06-085) **CODE BB61**

Lesson Title: Area of Composite Shapes

Consider the composite shape



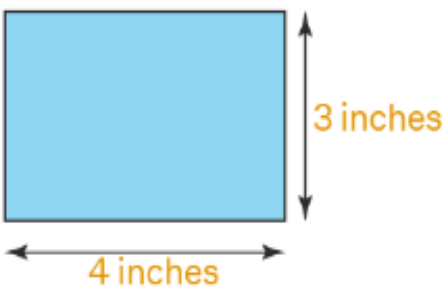
Determine the area of the shape.

3 minutes

Theme: Geometry Perimeters and Areas (M-06-083) **CODE BB58**

Lesson Title: Area of Squares and Rectangles

Calculate the area of the following rectangle:

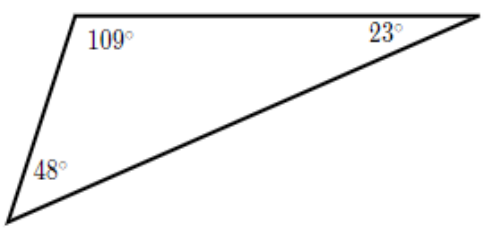


30 seconds

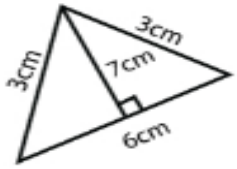
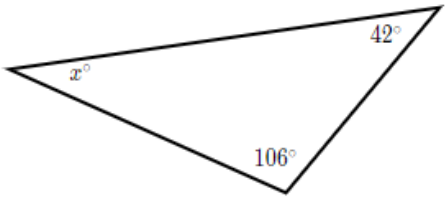
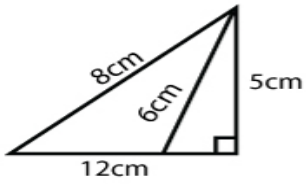
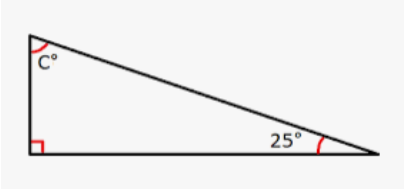
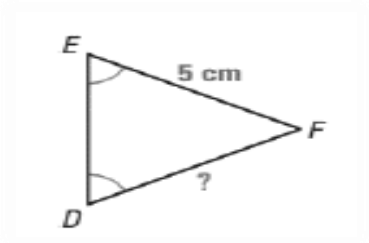
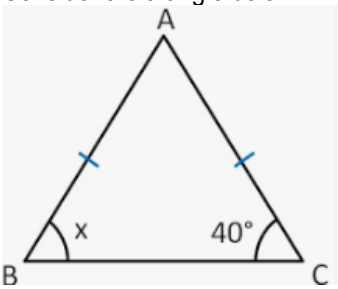
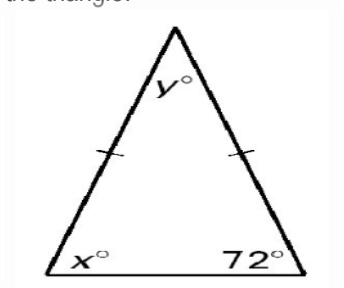
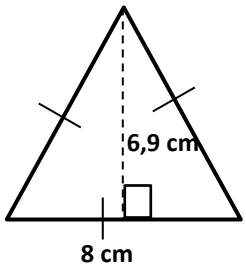
Theme: Geometry of Triangles (M-06-091) **CODE BB62**

Lesson Title: Properties of Right-Angled Triangles

Calculate the sum of the interior angles of the triangle:



30 seconds

Theme: Geometry Perimeters and Areas (M-06-084) **CODE BB59**	Theme: Geometry of Triangles (M-06-091) **CODE BB63**
Lesson Title: Area of Triangles	Lesson Title: Properties of Right-Angled Triangles
Consider the triangle below and answer the following questions:  a) Determine the perimeter b) Determine the area 2 minutes	Find the missing angle in the triangle:  1 minute
Theme: Geometry Perimeters and Areas (M-06-084) CODE BB60	**Theme: Geometry of Triangles (M-06-091) CODE BB64**
Lesson Title: Area of Triangles	Lesson Title: Properties of Right-Angled Triangles
Consider the triangle and answer the following questions:  a) Determine the perimeter. b) Determine the area. 2 minutes	Consider the triangle:  Determine the value of the missing angle c° 1 minute
Theme: Geometry of Triangles (M-06-092) CODE BB65	**Theme: Geometry of Triangles (M-06-092) CODE BB66**
Lesson Title: Properties of Isosceles Triangles	Lesson Title: Properties of Isosceles Triangles
Consider the triangle below:  Determine the length of side DF. |30 seconds	Consider the triangle below:  Determine the size of angle x. 30 seconds
Theme: Geometry of Triangles (M-06-092) CODE BB67	**\Theme: Geometry of Triangles (M-06-093) CODE BB68**
Lesson Title: Properties of Isosceles Triangles	Lesson Title: Properties of Equilateral Triangles
Consider the triangle:  Determine the size of angles x° and y° 30 seconds	Consider the **equilateral** triangle below:  a) Determine the perimeter of the triangle b) Determine the area of the triangle. 2 minutes

Theme: Geometry of Triangles (M-06-093) **CODE BB69**
Lesson Title: Properties of Equilateral Triangles
Solve the following word problem: Consider an equilateral triangle whose sides are 40mm. a) What is the perimeter of the equilateral triangle? b) If the area is $320mm^2$, find the height of the equilateral triangle . 2 minutes