

# Improving Science and Maths learning in Public Schools

What has been done, what can be done and who should be doing it.

# What has been done?

- AMESA
- E-classroom
- Maths at SHARP
- Sasol Techno X
- Sci-Bono
- (and that was just last week...)



FREE RESOURCE SUPPORT MATERIAL FOR EDUCATORS TO USE IN THE CLASSROOM

Home **Matric** ▾ CAPS Content ▾ Alphabet Art & Crafts ▾ Numbers Learn To Draw Competitions Blog ▾ CAPS Docs **NEW: Online Book Shop**

You are here: [Home](#) » [Matric Maths](#)

Sponsored By:

**SHARP**

**Matric Maths**

CAPS Content - Grade 12 Matric Mathematics

FREE printable activity worksheets

Free Activity Worksheets:

Grade R: English Language

Grade R: Lifeskills

Grade 1: English Language

Grade 1: Lifeskills

Click Images to Print

**SHARP**  
Worksheet 1 - Logs, Exponents and Fractions

Exponents

1. Simplify the following:

$a^3 \cdot a^5 = a^{3+5} = a^8$	$\frac{a^6 \cdot a^2}{a^4} = \frac{a^8}{a^4} = a^{8-4} = a^4$
$a^5 \cdot a^3 = a^{5+3} = a^8$	$\frac{a^8}{a^4} = a^{8-4} = a^4$

2. Solve for x:

$3 \cdot 2^{x+1} = 24$	$2^{x+1} = \frac{24}{3} = 8$
$10^{\frac{x}{2}} = 100$	$10^{\frac{x}{2}} = 10^2$

**SHARP**  
Worksheet 2 - Graphs

Straight Line Graphs

1. Given below is a straight line with the co-ordinates A(2,4) and B(3,2):

**SHARP**  
Worksheet 3 - Patterns, Sequences and Series

Question Series

1. Given the sequence 2, 11, 20, 29, 38, ...

- a) Determine the next two terms.
- b) Hence, or otherwise, determine the  $n^{\text{th}}$  term  $T_n$  of the sequence.
- c) Which term is equal to 80?

2. Given the sequence 3, 5, 8, 14, 25, ...

- a) Determine the next two terms.
- b) Hence, or otherwise, determine the  $n^{\text{th}}$  term  $T_n$  of the sequence.
- c) Which term is equal to 80?

3. Given the sequence 3, 7, 15, 31, ...

kindle fire

Movies, web, apps, reading, & more

Only \$159

[Order now](#)



SEARTEC

Proud distributor of: **SHARP**

$2(ab+bc+ca) = abc$   
 $S = \frac{1}{2}ab \sin C$   
 $d^2 + d^2 = 4a^2$   
 $S = \frac{1}{2}ac \sin B$   
 $P = \frac{1}{2}ac \sin B$   
 $b^2 = c^2 - a^2$   
 $k^2 = c_a \cdot c_b$   
 $b^2 = c_f \cdot c$   
 $\sin \alpha = \frac{a}{c}$   
 $\cos \alpha = \frac{b}{c}$   
 $\tan \alpha = \frac{a}{b}$

**USE YOUR CALCULATOR**

Graphs are an important section in maths and one of the most common questions in an exam. It is easy to draw a graph. If you need help with this section then read this article.

Read  $S = \frac{1}{2}ab \sin C$   $P = \frac{1}{2}P$

## Maths is Fun!

Welcome to our amazing Sharp Website! We are thrilled that you are here and want to use this to help you improve your maths skills or your students' maths skills.

We have many worksheets and past paper exams, and even a study guide available to you for FREE! There is no catch, no strings attached – use it don't use it ;) Remember that maths is all about the practice – the more you practice the luckier you get ;)

### ENTER THIS WEEKS COMPETITION

The Gumball school has a competition where the student who guesses how many gumballs (perfect spheres) are in a cylindrical jar will win a big prize. Each gumball has a diameter of 2cm, while the jar has a radius of 5cm and a height of 10cm.

Work out the approximate number of gumballs in the can.

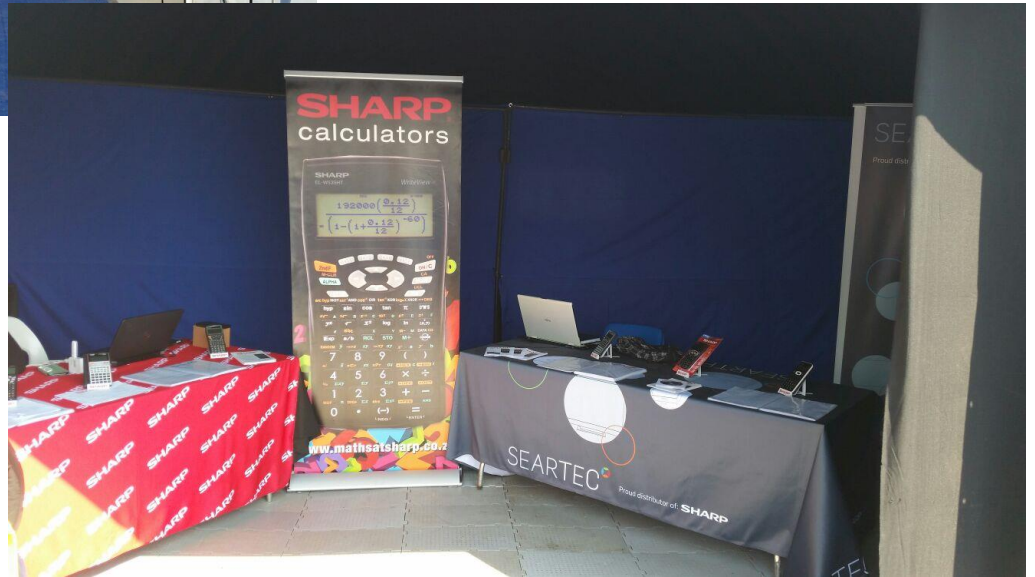
**Bonus question:**  
If there are 180 gumballs in the jar – how much space is left between the gumballs?

[Submit Your Answer](#)

### HOW TO....

**Find Factor pairs using the calculator:**

Factorising is hard sometimes – particularly if you can't remember the factors for a



SEARTEC 

Proud distributor of: **SHARP**

- Establishment of the MST committee by the MEC
- Horizon Maths Competition and other maths and science olympiads.
- The digital classroom website from Vodacom
- The Nokia maths website
- Siyavula textbooks
- Thutong portal
- And many more



SEARTEC 

Proud distributor of: **SHARP**

# What can be done

- A lot of resources are available but without access to internet nothing will change
- Vodacom – 60 digital classrooms.
- Mobile computer labs
- Tablets?
- Back to the basics
- Building blocks of maths and science



- Workshops
  - What works in your classroom?
  - Sharing is caring
  - Who attends them and do they really gain from the workshop?
- Challenges
- Competitions
  - Horizon Maths Competition
  - Olympiads

# Who should be doing it?

- You!
- Me!
- Parents
- Corporates
- And anybody else who is willing to be involved

# What do we need?

- A SHARP EL535 calculator 😊
- Passion and excitement about your subject
- A willingness to put in the extra hours
- Someone's shoulder to cry on
- And a willingness to try new things
- Games!
- Discovery exercises

- Perseverance
- Compassion
- Experimentation
- Courage
- Goals
- And people who will believe in your crazy plans.

# What's happened to SHARP?

- Rebranded as Seartec
- New leadership
- New ideas
- New faces
- New products

# The End!

For access to free maths worksheets for  
grade 8 – 12 go to

[www.mathsatsharp.co.za](http://www.mathsatsharp.co.za)

And for grade R to grade 7 got to

[www.e-classroom.co.za](http://www.e-classroom.co.za)