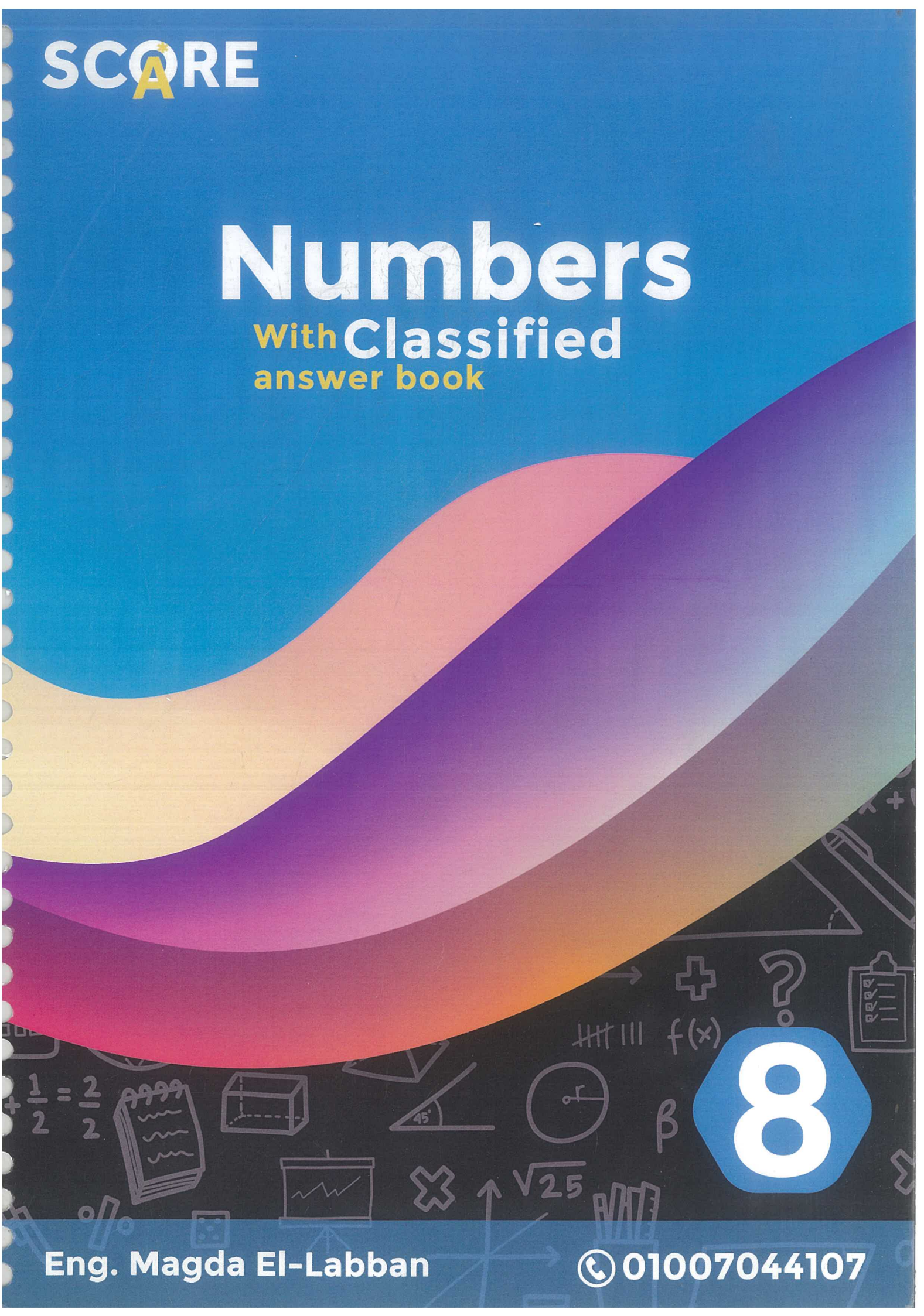
SCORE A

# Numbers

## With Classified answer book

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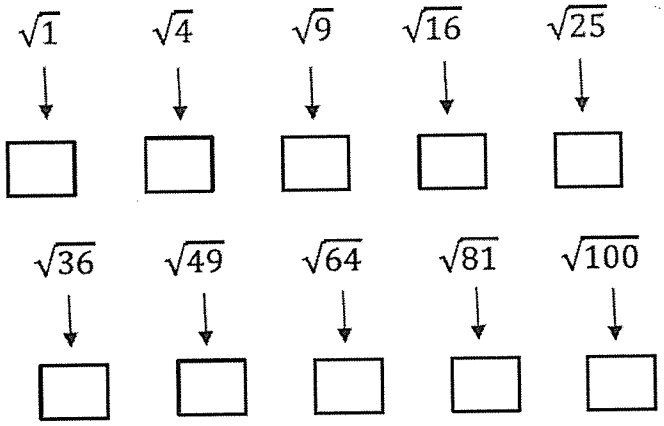
# 7- Estimate The Square Roots

1. Write the value of each of the following square roots




2. Write the etsimate value of each of the following square roots

$\sqrt{35}$ $\sqrt{40}$

$\sqrt{65}$ $\sqrt{87}$

3.

| Square Root | Closest perfect squares above and below | Closest perfect square | Final Answer |
|---|---|---|---|
| $\sqrt{5}$ | | | $\sqrt{}\approx 5$ |
| $\sqrt{7}$ | | | $\sqrt{}\approx 7$ |
| $\sqrt{10}$ | | | $\sqrt{}\approx 10$ |
| $\sqrt{17}$ | | | $\sqrt{}\approx 17$ |
| $\sqrt{35}$ | | | $\sqrt{}\approx 35$ |
| $\sqrt{79}$ | | | $\sqrt{}\approx 79$ |

4. Find **a** $\sqrt{49}$ **b** $\sqrt{64}$

**c** Use your answers to a and b to estimate $\sqrt{59}$ to 1 d.p

5. Find **a** $\sqrt{16}$ **b** $\sqrt{25}$

**c** Use your answers to a and b to estimate $\sqrt{21}$ to 1 d.p.

6. Find **a** $\sqrt{0.01}$ **b** $\sqrt{0.04}$

**c** Use your answers to a and b to estimate $\sqrt{0.03}$ to 2 d.p.

7. Write a number in the box to make the statement correct.

$\sqrt{71} = \square$ .426...

8. Without using a calculator, show that

a $7 < \sqrt{55} < 8$

b $4 < \sqrt[3]{100} < 5$

9. Estimate the positive solutions in these equations to 1 dp

a $x^2 = 115$

b $x^3 = 30$

c $x^2 = 45$

10. The square of x is 7

Circle the value of $x^3$

$343$ $\sqrt[3]{49}$ $117\,649$ $7\sqrt{7}$

11. (a) Farhad wanted to estimate the square root of 27
He wrote this working:

$\sqrt{36} = 6$ and $\sqrt{25} = 5$
36 is 11 more than 25
27 is 2 more than 25

So the square root must be $\frac{2}{11}$ more than 5
which is 5.2 to 1 d.p.

Is Farhad's method correct? Discuss your answer

(b) Hassan says

When you square a positive number the answer is always bigger than the original number.

For example
2.52 = 6.25 and 6.25 is bigger than 2.5

Find an example to show that Hassan is wrong. You must show your working.

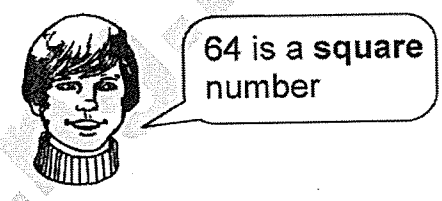
12. Glynn says that $\sqrt{16+9}$ is the same as $\sqrt{16}+\sqrt{9}$. Show that Glynn is wrong.

13. Which is greater, 32 or $\sqrt{70}$? You must show your working.

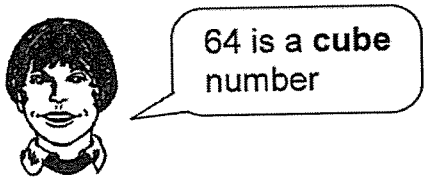
14. Estimate $\sqrt{97}$ giving your answer to the nearest whole number.

15. James thinks that when you square a number you **always** get an odd number answer. Give an example to show that James is wrong.

16. Tom says




Sam says




Tom and Sam are both right. Explain why.