


mathsquad

TERM 1

- year 7 Essentials -

name: _____

Welcome to the Year 7 Essentials Skills Program. These sheets are designed to give you multiple opportunities to learn and revise key mathematical skills. Completing these sheets will help you become equipped with the skills you need to be a successful user of mathematics in school and every day life. The following points will help you get the most out of the program. Enjoy!

- The first page of each sheet is technology free and you are not allowed to use a calculator.
- The second page of each sheet is technology active and you are allowed to use a calculator.
- When you see the  symbol include some working to support your answer. This could involve a calculation, annotating a diagram or an explanation of your thought process.
- You may be able to complete very few questions or almost all of them, it doesn't matter. As long as you give your best effort and try to improve each time you are maximising your success!
- If you feel that some or all of these questions aren't suitable for you, have a chat with your teacher.
- All fractional answers must be given in simplified form.

In most cases you will complete one sheet each week. To further support your learning your teacher may set additional tasks for you to complete. This task could require you to access your school's Mathsquad skill development page. Your teacher will inform you of your school's webpage URL and password. Please write these down in the space below for easy reference.

Webpage: _____

Password: _____

Time to get started on Sheet 1. Turn the page and complete the questions on pages 2 and 3.

Step 1: ★ Start a timer ★ Complete the 30 questions in the Quick Quiz ★ Stop the timer ★ Record your time.

Mental Strategies

1. $\square + 8 = 10$
2. $\square + 5 = 7$
3. $5 + 7 =$
4. $14 + 7 =$
5. $45 - 9 =$
6. $81 - 75 =$
7. $4 \times 11 =$
8. $9 \times 6 =$
9. $15 \div 5 =$
10. $35 \div 4 =$ rem.

Times Tables

11. $\square \times 8 = 48$
12. $3 \div \square = 1$
13. $1 \times \square = 9$
14. $\square \div 10 = 11$
15. $9 \times \square = 18$
16. $\square \div 6 = 10$
17. $2 \times \square = 8$
18. $77 \div \square = 11$
19. $\square \times 11 = 121$
20. $\square \div 3 = 3$


Key Skills













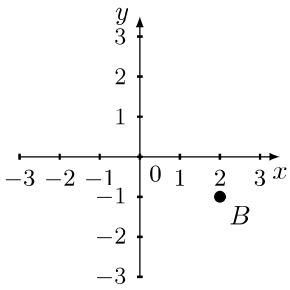
21. $3642 + 3083 =$
22. $1369 - 772 =$
23. $5 \times 871 =$
24. $1768 \div 8 =$
25. $2 \times \square = 62$
26. $3 \times \square = 75$
27. $5 \times \square = 135$
28. Factors of 23:
29. When simplified, $\frac{4}{12} =$
30. $\frac{2}{4} + \frac{4}{12} =$


Time:


Quick Quiz working out space

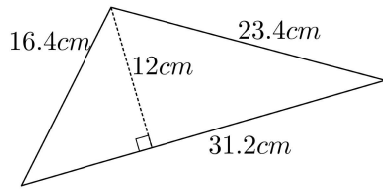
Step 2: ★ Complete these 23 questions

★ Do not use a calculator ★ Include working out when you see the  symbol. ★ Simplify all fractional answers.

1. Calculate a. $-1 - 4 =$ b. $-2 + 1 =$	2. Calculate a. $-1 + -3 =$ b. $-2 - -6 =$	3. Calculate a. $2^1 =$ b. $\sqrt{16} =$	4.  Calculate $(5 - 1)^2$						
5. Circle any words that describe the number 1. even square mult. of 2	6. Write 72 as a product of powers of prime numbers.	7. a. Find the HCF of 36 and 40. b. Find the LCM of 7 and 28.	8. Fill in the boxes to make each equation true. a. $7 = \frac{\boxed{}}{4}$ b. $5\frac{3}{4} = \frac{\boxed{}}{4}$ c. $1\frac{\boxed{}}{4} = \frac{7}{4}$						
9.  $\frac{1}{2} + \frac{11}{12}$	10.  $\frac{1}{3} \times \frac{4}{7}$	11.  $\frac{1}{3} \div \frac{2}{7}$	12.  $3\frac{1}{3} - 2\frac{2}{3}$						
13. a. What is the place value of the 6 in 750.36? b. Round 247.98 to 1 decimal place (1 dp.)	14. Insert $<$, $=$ or $>$ between the decimals and, if possible, circle the biggest. 0.02 0.2	15. a. $594 \times 10 =$ b. $4.04 \div 10 =$ c. $3.7 \times 100 =$	16. Complete the table below <table border="1" data-bbox="1182 1037 1508 1121"><tr><td>P</td><td>F</td><td>D</td></tr><tr><td></td><td>$\frac{3}{5}$</td><td></td></tr></table>	P	F	D		$\frac{3}{5}$	
P	F	D							
	$\frac{3}{5}$								
17.  $4.72 - 2.75$	18.  3.7×0.02	19.  $0.5 \div 0.2$	20.  Calculate 80% of 96						
21. a.  Substitute $x = 4$ into $x + 8$ and evaluate. b.  Substitute $x = 6$ into $7x$ and evaluate.	22.  Solve the equations below and include working that shows your use of an opposite operation. a. $x - 7 = 7$ b. $7x = 63$	23. Plot the point $A = (-2, 1)$ below and state the coordinates of point B.  $B = (,)$							

Step 3: ★ Complete these 5 questions **★** You may use a calculator **★** Include working out when you see the  symbol.

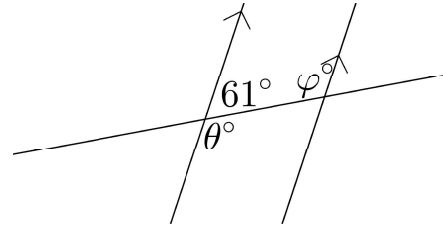
24.  Calculate the perimeter and area of the shape below. Give your answers to the nearest whole number.



$P =$

$A =$


25. Consider the diagram below.

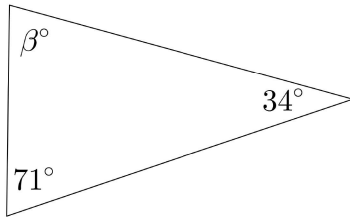


a. State the size of the unknown angles.

$\theta^\circ =$ $\varphi^\circ =$

b. What is the relationship between θ and φ ?

26. a.  What is the size of angle β ?




b. Which word(s) classifies the triangle?

scalene right isosceles equilateral

27. A bag contains 10 balls numbered 1 to 10. A ball is randomly selected.

a. What is the sample space?

b. What is the probability of selecting a ball that is greater than 4?

28.  Calculate the following statistics for the below data set

4, 8, 1, 2, 9, 4, 9, 0

a. median =

b. mean to 1 dp. \approx

c. mode =

d. range =

Step 3: ★ Complete any additional weekly tasks in the space below **★**

more space from page 42 onwards if needed