

mathsquad


BOOK 1

Key Skills Training - L2

SOLUTIONS

name: _____

Welcome to the Key Skills Training 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 also every day life. The following points will help you get the most out of the program. Enjoy!

- The first two pages of each sheet are technology free and you are **not allowed** to use a calculator.
- The third 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.
- All fractional answers must be given in simplified form.
- 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.

Every skill within this booklet connects to an online skill development page containing instructional videos and practice questions. Head to the website below to learn more!

Webpage: <https://mathsquad.org/KS2>

Time to get started on Sheet 1. Turn the page and complete the questions on pages 2, 3 and 4.

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

Times Tables

1. $\boxed{8} \times 1 = 8$
2. $88 \div \boxed{11} = 8$
3. $3 \times \boxed{7} = 21$
4. $\boxed{32} \div 8 = 4$
5. $9 \times \boxed{8} = 72$
6. $\boxed{6} \div 2 = 3$
7. $12 \times \boxed{3} = 36$
8. $24 \div \boxed{2} = 12$
9. $\boxed{3} \times 4 = 12$
10. $\boxed{22} \div 11 = 2$

Key Skills

11. $\boxed{7} + 3 = 10$
12. $1 + \boxed{0} = 1$
13. $4 + 7 = 11$
14. $7 + 17 = 24$
15. $93 - 8 = 85$
16. $44 - 36 = 8$
17. $4 \times 7 = 28$
18. $10 \times 12 = 120$
19. $24 \div 8 = 3$
20. $26 \div 11 = 2 \text{ rem. } 4$


Key Skills (continued)












21. $1564 + 2089 = 3653$
22. $433 - 241 = 192$
23. $9 \times 457 = 4113$
24. $2772 \div 6 = 462$
25. $2 \times \boxed{24} = 48$
26. $3 \times \boxed{23} = 69$
27. $5 \times \boxed{17} = 85$
28. Factors of 44: **1, 44, 2, 22, 4, 11**
29. When simplified, $\frac{14}{28} = \frac{1}{2}$
30. $\frac{2}{8} + \frac{2}{4} = \frac{3}{4}$


Time:


Quick Quiz working out space

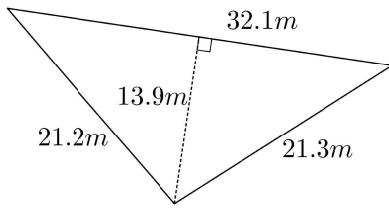
Step 2: ★ Complete these 23 questions

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

1. Calculate a. $-3 - 2 = -5$ b. $-1 + 2 = 1$	2. Calculate a. $-2 + -5 = -7$ b. $6 - -6 = 12$	3. Calculate a. $7^2 = 49$ b. $\sqrt{36} = 6$	4.  Calculate $19 - 3 + 6$ 22						
5. Circle any words that describe the number 66. even square mult. of 5 even,	6. Write 78 as a product of powers of prime numbers. $2 \times 3 \times 13$	7. a. Find the HCF of 10 and 20. 10 b. Find the LCM of 4 and 16. 16	8. Fill in the boxes to make each equation true. a. $7 = \frac{\boxed{21}}{3}$ b. $1\frac{2}{3} = \frac{\boxed{5}}{3}$ c. $4\frac{\boxed{1}}{3} = \frac{13}{3}$						
9.  $\frac{6}{7} - \frac{29}{35}$ $\frac{1}{35}$	10. $\frac{5}{8} \times \frac{2}{3}$ $\frac{5}{12}$	11.  $\frac{6}{12} \div \frac{7}{11}$ $\frac{11}{14}$	12.  $3\frac{1}{2} \times 2$ 7						
13. a. What is the place value of the 9 in 12.963? Tenths b. Round 0.078 to 2 decimal places (2 dp.) 0.08	14. Insert $<$, $=$ or $>$ between the decimals and, if possible, circle the biggest. $0.038 < 0.04$ 0.04 is biggest	15. a. $24700 \div 10 = 2470$ b. $0.47 \times 10 = 4.7$ c. $655 \div 100 = 6.55$	16. Complete the table below <table data-bbox="1182 1037 1508 1121"><tr><td>P</td><td>F</td><td>D</td></tr><tr><td>16%</td><td>$\frac{4}{25}$</td><td>0.16</td></tr></table>	P	F	D	16%	$\frac{4}{25}$	0.16
P	F	D							
16%	$\frac{4}{25}$	0.16							
17.  $5.8 + 1.57$ 7.37	18.  5.9×0.2 1.18	19.  $2.85 \div 0.6$ 4.75	20.  Calculate 30% of 68 20.4						
21. a.  Substitute $x = 14$ into $x - 6$ and evaluate. $14 - 6 = 8$ b.  Substitute $x = 10$ into $7x$ and evaluate. $7 \times 10 = 70$	22.  Solve the equations below and include working that shows your use of an opposite operation. a. <div style="display: flex; align-items: center;"><div style="margin-right: 10px;">-9</div><div style="border-left: 1px solid black; padding-left: 10px;">$x + 9 = 19$ $x = 10$</div></div> b. <div style="display: flex; align-items: center;"><div style="margin-right: 10px;">$\div 9$</div><div style="border-left: 1px solid black; padding-left: 10px;">$9x = 36$ $x = 4$</div></div>	23. Plot the point $A = (-2, 2)$ below and state the coordinates of point B. <div data-bbox="1053 1572 1344 1866" data-label="Figure"></div> <div data-bbox="1359 1850 1508 1881" data-label="Text">$B = (-2, 3)$</div>							

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

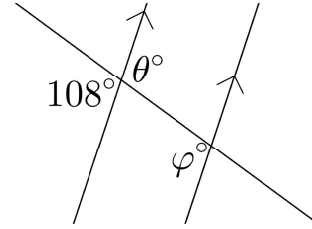
24.  Calculate the perimeter and area of the shape below. Give your answers to the nearest whole number.



$$P = 32.1 + 21.3 + 21.2 \approx 75 \text{ m}$$

$$A = 0.5 \times 32.1 \times 13.9 \approx 223 \text{ m}^2$$


25. Consider the diagram below.

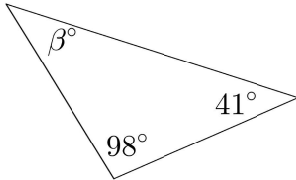


a. State the size of the unknown angles.

$$\theta^\circ = 108 \quad \varphi^\circ = 108$$

b. What is the relationship between θ and φ ?
alternate

26. a.  What is the size of angle β ?



$$\beta = 180 - 98 - 41 = 41$$

b. Which word(s) classifies the triangle?

scalene right isosceles equilateral
isosceles


27. A bag contains 13 balls numbered 1 to 13. A ball is randomly selected.

a. What is the sample space?

{1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13}

b. What is the probability of selecting a ball with an odd number?

$$\frac{7}{13}$$

28.  Calculate the following statistics for the below data set

4, 5, 9, 1, 0, 5, 8

a. median = **5**

b. mean to 1 dp. \approx **4.6**

c. mode = **5**

d. range = **9 - 0 = 9**

Step 4: ★ Complete any additional weekly tasks in the space below **★**

Extra space for work, thoughts, comments or questions

more space from page 42 onwards if needed

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

Times Tables

1. $\boxed{12} \times 6 = 72$

2. $28 \div \boxed{4} = 7$

3. $9 \times \boxed{8} = 72$

4. $\boxed{54} \div 6 = 9$

5. $2 \times \boxed{11} = 22$

6. $\boxed{6} \div 6 = 1$

7. $2 \times \boxed{3} = 6$

8. $54 \div \boxed{9} = 6$

9. $\boxed{4} \times 11 = 44$

10. $\boxed{32} \div 8 = 4$

Key Skills

11. $1 + \boxed{9} = 10$

12. $\boxed{1} + 5 = 6$

13. $8 + 5 = \mathbf{13}$

14. $9 + 13 = \mathbf{22}$

15. $61 - 7 = \mathbf{54}$

16. $81 - 74 = \mathbf{7}$

17. $11 \times 11 = \mathbf{121}$

18. $10 \times 12 = \mathbf{120}$

19. $30 \div 6 = \mathbf{5}$

20. $47 \div 11 = \mathbf{4} \text{ rem. } \mathbf{3}$

Key Skills (continued)

21. $2727 + 891 = \mathbf{3618}$

22. $963 - 674 = \mathbf{289}$

23. $6 \times 787 = \mathbf{4722}$

24. $6975 \div 9 = \mathbf{775}$

25. $2 \times \boxed{40} = 80$

26. $3 \times \boxed{31} = 93$

27. $5 \times \boxed{19} = 95$

28. Factors of 34: $\mathbf{1, 34, 2, 17}$


29. When simplified, $\frac{16}{28} = \frac{\mathbf{4}}{\mathbf{7}}$












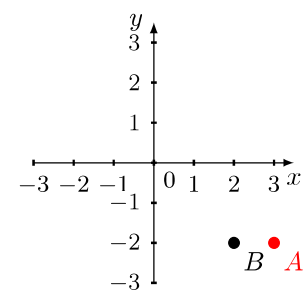
30. $\frac{5}{6} + \frac{2}{30} = \frac{\mathbf{9}}{\mathbf{10}}$


Time:


Quick Quiz working out space

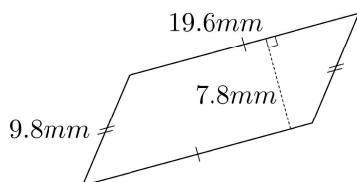
Step 2: ★ Complete these 23 questions

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

1. Calculate a. $3 - 4 = -1$ b. $-6 + 3 = -3$	2. Calculate a. $-2 + -3 = -5$ b. $5 - -4 = 9$	3. Calculate a. $2^4 = 16$ b. $\sqrt{9} = 3$	4.  Calculate $(15 - 5) \div 5$ 2						
5. Circle any words that describe the number 19. even prime mult. of 5 prime,	6. Write 96 as a product of powers of prime numbers. $2^5 \times 3$	7. a. Find the HCF of 9 and 45. 9 b. Find the LCM of 6 and 30. 30	8. Fill in the boxes to make each equation true. a. $4 = \frac{\boxed{20}}{5}$ b. $1\frac{4}{5} = \frac{\boxed{9}}{5}$ c. $2\frac{\boxed{3}}{5} = \frac{13}{5}$						
9.  $\frac{1}{3} - \frac{1}{8}$ $\frac{5}{24}$	10. $\frac{2}{12} \times \frac{8}{11}$ $\frac{4}{33}$	11.  $\frac{5}{9} \div \frac{3}{10}$ $\frac{50}{27}$ or $1\frac{23}{27}$	12.  $2\frac{1}{3} \div 7$ $\frac{1}{3}$						
13. a. What is the place value of the 8 in 2.581? Hundredths b. Round 1.593 to 2 decimal places (2 dp.) 1.59	14. Insert $<$, $=$ or $>$ between the decimals and, if possible, circle the biggest. $3.71 < 3.76$ 3.76 is biggest	15. a. $3800 \times 10 = 38000$ b. $6.7 \div 10 = 0.67$ c. $80.3 \times 100 = 8030$	16. Complete the table below <table border="1" data-bbox="1183 1037 1508 1121"><tr><td>P</td><td>F</td><td>D</td></tr><tr><td>14%</td><td>$\frac{7}{50}$</td><td>0.14</td></tr></table>	P	F	D	14%	$\frac{7}{50}$	0.14
P	F	D							
14%	$\frac{7}{50}$	0.14							
17.  $1.98 + 2.8$ 4.78	18.  0.57×0.02 0.0114	19.  $0.087 \div 0.03$ 2.9	20.  Calculate 20% of 47 9.4						
21. a.  Substitute $x = 17$ into $x - 8$ and evaluate. $17 - 8 = 9$ b.  Substitute $x = 72$ into $\frac{x}{9}$ and evaluate. $\frac{72}{9} = 8$	22.  Solve the equations below and include working that shows your use of an opposite operation. a. <div style="display: inline-block; vertical-align: middle;">-9 $x + 9 = 14$ $x = 5$</div> b. <div style="display: inline-block; vertical-align: middle;">$\div 5$ $5x = 20$ $x = 4$</div>		23. Plot the point $A = (3, -2)$ below and state the coordinates of point B. <div style="text-align: center;"> $B = (2, -2)$</div>						

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

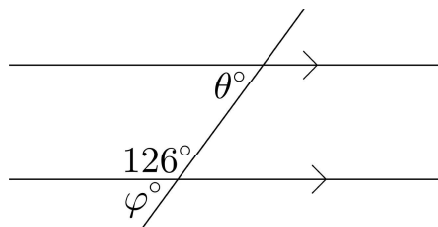
24.  Calculate the perimeter and area of the shape below. Give your answers to the nearest whole number.



$$P = 19.6 + 9.8 + 19.6 + 9.8 \approx 59 \text{ mm}$$

$$A = 19.6 \times 7.8 \approx 153 \text{ mm}^2$$


25. Consider the diagram below.

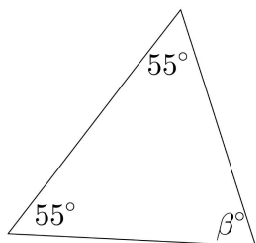


a. State the size of the unknown angles.

$$\theta^\circ = 54 \quad \varphi^\circ = 54$$

b. What is the relationship between θ and φ ?
corresponding

26. a.  What is the size of angle β ?



$$\beta = 180 - 55 - 55 = 70$$

b. Which word(s) classifies the triangle?

scalene right isosceles equilateral
isosceles


27. A bag contains 8 balls numbered 1 to 8. A ball is randomly selected.

a. What is the sample space?

$$\{1, 2, 3, 4, 5, 6, 7, 8\}$$

b. What is the probability of selecting a ball that is greater than 6?

$$\frac{1}{4}$$

28.  Calculate the following statistics for the below data set

7, 3, 0, 5, 2, 9, 1, 5

a. median = **4**

b. mean = **4**

c. mode = **5**

d. range = **9 - 0 = 9**

Step 4: ★ Complete any additional weekly tasks in the space below ★

Extra space for work, thoughts, comments or questions

more space from page 42 onwards if needed