Trinity High School

Mathematics Department

S1 Block 1 Revision

Topic	I can	Got it	Almost	Not Yet
Types of number	Identify multiples of a number and identify the lowest common multiple of 2 or more numbers.			
	Identify factors of a number and identify the highest common factor of 2 or more numbers.			
	Identify prime numbers.			
	Identify square numbers and find square roots.			
	Evaluate powers			
Whole Number	Carry out addition, subtraction, multiplication and division			
	Interpret a worded problem and select an appropriate strategy			
Algebra	Collect like terms			
	Use substitution to evaluate expressions			
Angles	Identify acute, right, obtuse, straight and reflex angles.			
	Estimate angles			
	Calculate a missing angle using the following properties: • Angles forming a straight line sum to 180° • Angles round a point sum to 360° • Angles in a triangle sum to 180° • Vertically opposite ("X") angles are equal • Corresponding ("F") angles are equal • Alternate ("Z") angles are equal			

Types of Number

1. (a) Write down the first ten multiples of 2.

   (b) Write down the first ten multiples of 3.

   (c) List the first three common multiples of 2 and 3.

2. From the box, choose:

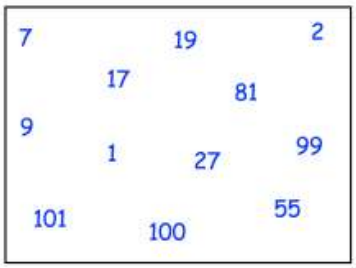
   (a) the smallest prime number

   (b) a prime number that is greater than 10

   (c) an even prime number

   (d) the largest prime number

   (e) three numbers that are not prime



3. (a) List all the factors of 24

   (b) List all the factors of 36

   (c) Find the highest common factor (HCF) of 24 and 36.

4. Work out the following:

   (a) 5^2 (b) 3^2 (c) 8^2 (d) 9^2 (e) 2^2 (f) 10^2 (g) 7^2

5. Work out the following:

   (a) $\sqrt{16}$ (b) $\sqrt{81}$ (c) $\sqrt{144}$ (d) $\sqrt{121}$ (e) $\sqrt{1}$ (f) $\sqrt{0}$

6. Sam has completed his maths homework. Can you spot any mistakes?

Find the highest common factor of 18 and 36

Factors of 18: 2, 3, 6, 9
Factors of 36: 2, 3, 4, 6, 9, 12, 18

HCF = 9

7. Find the value of:

   (a) 10^2 (b) 3^3 (c) 2^6 (d) 5^3 (e) 10^3 (f) 4^3 (g) 1^5

Whole Number

1. Carry out the following calculations.

(a) 876 + 357 (b) 3705 – 468 (c) 7554 ÷ 6 (d) 387 x 7

2. Work out the following:

(a) 84 x 10 (b) 84 x 100 (c) 84 x 1000 (d) 8.4 x 10

(e) 8.4 x 100 (f) 0.84 x 10 (g) 0.84 x 100 (h) 0.84 x 1000

(i) 307 x 100 (j) 9.86 x 1000 (k) 5.2 x 100 (l) 0.0093 x 100

(m) 5700 ÷ 10 (n) 5700 ÷ 100 (o) 5700 ÷ 1000 (p) 507 ÷ 100

(q) 78 ÷ 10 (r) 936 ÷ 100 (s) 27 ÷ 100 (t) 9087 ÷ 100

(u) 58.92 x 1000 (v) 832 ÷ 10 (w) 1008 ÷ 100 (x) 0.954 x 100

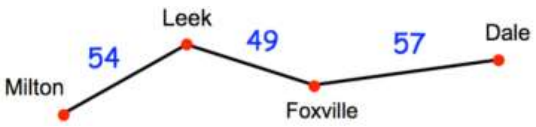
3. Calculate:

(a) 57 x 60 (b) 2.8 x 300 (c) 5400 ÷ 90 (d) 3400 ÷ 40

4. The distances, in kilometres, between four towns are shown on the map.

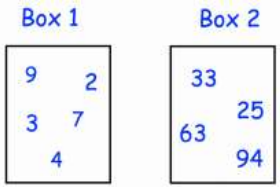
(a) Work out the distance between Leek and Dale.

(b) Work out the distance between Milton and Dale.



5. Leanne works in a cinema. She is paid £7 per hour for the first 120 hours she works each month. Leanne is paid an overtime rate of £9 per hour for any additional hours. In September she works 138 hours.
Work out how much Leanne is paid.

6. Below are two boxes that contain numbers.



Choose one number from each box that multiply together to give an answer between 400 and 500.

7. At a conference there are 621 people. Each table seats 8 people. How many tables are needed?

Algebra

1. Collect like terms to simplify each expression.

(a) $y + y + y + y + y$

(b) $5x + 4x + 2x$

(c) $9a + 3a - 7a - 4a$

(d) $13p + 11q + 2p + q$

(e) $4w + 10x - 2w + 5x$

(f) $7x + 3y + 10 - 4x + y + 7$

(g) $4a + 10b - 7b + 5 + 2a$

(h) $5u^2 + 8u + 10u + 2u^2$

(i) $7x^2 + 5x + 3 + 2x^2 + 10x$

(j) $5ab + 5a + 5b + 10a + 20b + 5ab$

2. If $a = 7$, $b = 10$, $c = 3$, $d = 8$ and $e = 15$, find the value of each expression:

(a) $a + 5$

(b) $b - 4$

(c) $c + d$

(d) $e - d$

(e) $2a$

(f) $4b$

(g) $3e$

(h) $5c$

(i) $\frac{b}{2}$

(j) $\frac{e}{5}$

(k) $\frac{d}{4}$

(l) $\frac{a}{2}$

(m) a^2

(n) b^2

(o) c^2

(p) d^2

(q) $2a + 1$

(r) $3b - 7$

(s) $9c + 11$

(t) $4e - 45$

(u) $2a + 3c$

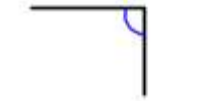
(v) $4d - b$

(w) $5a + 2d$

(x) $e - 4c$

Angles

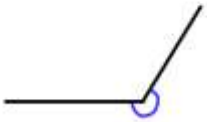
1. Match each angle to the correct name and then its property.



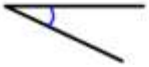
reflex — less than 90°

right — exactly 90°

acute — bigger than 90° but less than 180°



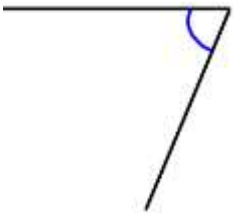
obtuse — exactly 180°



straight — bigger than 180°

2. Estimate the size of each angle. Aim to be within 5° of accuracy.

(a)



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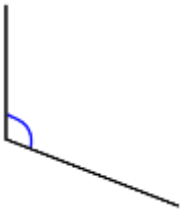

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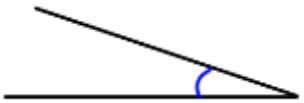
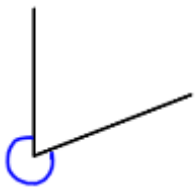
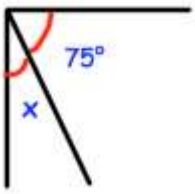


(d)



3. Calculate the size of the missing angles.

(a)



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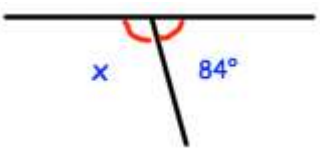
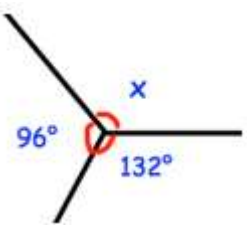
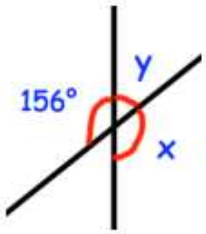


(c)



(d)



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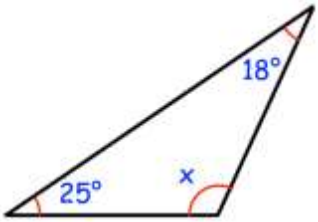
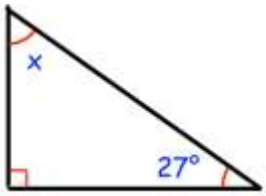
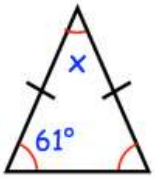


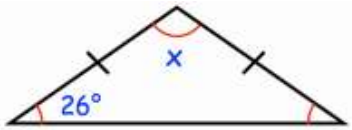
(f)



(g)



(h)



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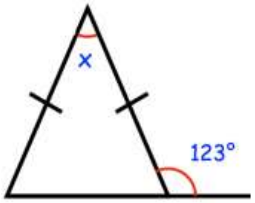
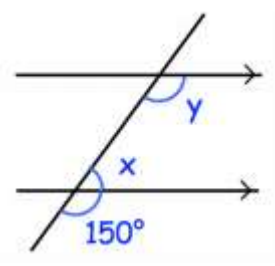
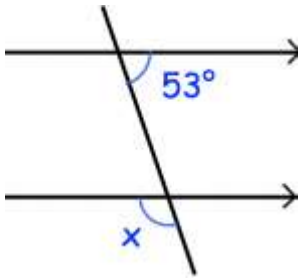


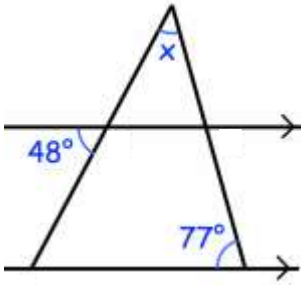
(j)



(k)



(l)



Answers

Types of number

1. (a) 2, 4, 6, 8, 10, 12, 14, 16, 18, 20

   (b) 3, 6, 9, 12, 15, 18, 21, 24, 27, 30

   (c) 6, 12, 18

2. (a) 2

   (b) 17 or 19 or 101

   (c) 2

   (d) 101

   (e) Any three of: 1, 9, 27, 55, 81, 99, 100

3. (a) 1, 2, 3, 4, 6, 8, 12, 24

   (b) 1, 2, 3, 4, 6, 9, 12, 18, 36

   (c) 12

4. (a) 25 (b) 9 (c) 64 (d) 81 (e) 4 (f) 100 (g) 49

5. (a) 4 (b) 9 (c) 12 (d) 11 (e) 1 (f) 0

6. Sam has not included 1 and 18 in the factors of 18 and he has not included 1 and 36 in the factors of 36. The highest common factor of 18 and 36 is 18.

7. (a) 100 (b) 27 (c) 64 (d) 125 (e) 1000 (f) 64 (g) 1

Whole Number

1. (a) 1233 (b) 3057 (c) 1259 (d) 2709
2. (a) 840 (b) 8400 (c) 840000 (d) 84

   (e) 840 (f) 8.4 (g) 84 (h) 840

   (i) 30700 (j) 9860 (k) 520 (l) 0.93

   (m) 570 (n) 57 (o) 5.7 (p) 5.07

   (q) 7.8 (r) 9.36 (s) 0.27 (t) 90.87

(u) 58920 (v) 83.2 (w) 10.08 (x) 95.4

3. (a) 3420 (b) 840 (c) 60 (d) 85

4. (a) 106km
   (b) 160km

5. £1002

6. 7 x 63 = 441

7. 78 Tables

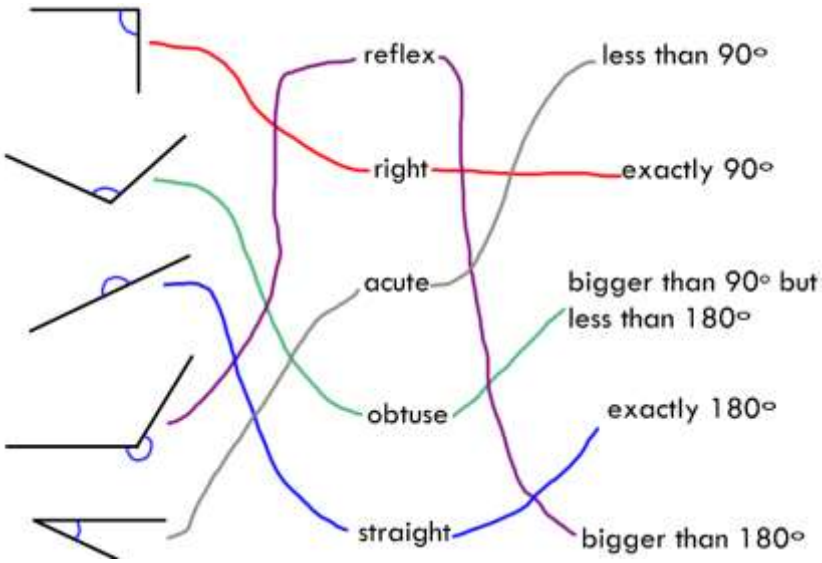
Algebra

1. (a) 5y (b) 11x
   (c) a (d) 15p + 12q
   (e) 2w + 15x (f) 3x + 4y + 17
   (g) 6a + 3b + 5 (h) $7u^2 + 18u$
   (i) $9x^2 + 15x + 3$ (j) 10ab + 15a + 25b

2. (a) 12 (b) 4 (c) 11 (d) 7
   (e) 14 (f) 40 (g) 45 (h) 15
   (i) 5 (j) 3 (k) 2 (l) 3.5
   (m) 49 (n) 100 (o) 9 (p) 64
   (q) 15 (r) 23 (s) 38 (t) 15
   (u) 23 (v) 22 (w) 51 (x) 3

Angles

1.



2. (a) 58° (b) 110°
(c) 19° (d) 290°

3. (a) x = 15° (b) x = 96° (c) x = 132°
(d) x = 156°, y = 24° (e) x = 137° (f) x = 63°
(g) x = 58° (h) x = 128° (i) x = 66°
j) x = 30°, y = 150° (k) x = 127° (l) x = 55°