## Trinity High School

## Mathematics Department

## S1/2 Block 3 Revision

| Topic | I can | Got it | Almost | Not Yet |
| :---: | :---: | :---: | :---: | :---: |
| Negative Numbers and Coordinates | Solve addition and subtraction problems involving integers |  |  |  |
|  | Solve multiplication and division problems involving integers |  |  |  |
|  | Use a Cartesian grid to read and plot points |  |  |  |
| 2D Work - <br> Properties and Construction | Identify all lines of symmetry in 2D shapes |  |  |  |
|  | Use my knowledge of angle properties and symmetry to find missing angles in a quadrilateral |  |  |  |
|  | Accurately draw 2D shapes using mathematical instruments |  |  |  |
| Percentages | Change fraction into percentages and vice versa |  |  |  |
|  | Use my answers to make comparisons |  |  |  |
|  | Find the percentage of a quantity using a calculator |  |  |  |
|  | Calculate simple percentages without a calculator |  |  |  |
|  | Calculate simple percentages from simple fractions mentally |  |  |  |
|  | Use percentages in real-life situations: simple interest, inc/dec given as \%, discount, HP deposit as \% |  |  |  |
| Probability | Show probability as a fraction or decimal fraction |  |  |  |
|  | Demonstrate understanding of the relationship between frequency of an event and the probability of it happening |  |  |  |
|  | Use a given probability to calculate an expected outcome |  |  |  |
|  | Calculate the probability of a simple event happening |  |  |  |

## Negative Numbers

1. Calculate:
(a) 2-3
(b) 3-5
(c) $4-9$
(d) $1-5$
(e) 5-7
(f) 6-7
(g) $8-11$
(h) $2-10$
(i) $-2+4$
(j) $-3+9$
(k) $-7+10$
(l) $-6+1$
(m) $-5+8$
(n) $-9+7$
(o) $-20+11$
(p) $-12+18$
(q) $-3-2$
(r) $-4-1$
(s) $-6-3$
(t) $-1-5$
(u) $-7-3$
(v) $-8-5$
(w) $-9-12$
(x) $-15-13$
2. Evaluate:
(a) $3+5-4$
(b) $2+1-6$
(c) 5-8-1
(d) $7-10+1$
(e) $8+3-15$
(f) 5-6-4
(g) 1-7-4
(h) $-3+6+1$
(i) $-8+2+3$
(j) $-10+4-6$
(k) $-9-3-1$
(l) $-2-7+4$
(m) $-20+11-6$
(n) $-5+14-8$
(o) $-13-4+6$
(p) $-30-80+40$
3. Work out the answer to:
(a) 11-15
(b) $-9+5$
(c) $-4-8$
(d) $-4+-3$
(e) $-9-+4$
(f) $10--3$
(g) $7-20$
(h) $-2--5$
(i) $12+-7$
(j) $-4--1$
(k) $-9+-8$
(l) $8-13$
(m) 6--11
(n) $-7-+7$
(o) $-6-5$
(p) $-20+-3$
(q) $-9--15$
(r) $-8+25$
(s) 31-50
(t) $-30--16$
(u) $-41-14$
(v) $-5-+23$
(w) $-16+-15$
(x) $40--40$
(y) $-18--27$
(z) $-52+90$

4a. At midnight, the temperature in Belfast was $-2^{\circ} \mathrm{C}$ At 9 am , the temperature was $5^{\circ} \mathrm{C}$

By how many degrees did the temperature rise?
b. Mr Jones has - $£ 50$ in his bank account.

If he pay $£ 70$ into the bank, how much will he now have in his account?
5. Work out the missing numbers:
(a)

(b) $0-\square=8$
(c) $-6+\square=-1$
(d)

(e) 9 - $\square$ $=15$
(f) -2

$=5$
6. Write down the coordinates of the points $A, B, C, D, E, F, G, H$


7a. Plot the points $A(2,2), B(7,2)$ and $C(7,7)$ on a coordinate diagram.
b. Given that $A B C D$ is a square, complete the diagram and write down the coordinates of the point D.

8a. On a coordinate diagram plot the points $P(1,3), Q(8,3)$ and $R(8,6)$.
b. Given that PQRS is a rectangle, complete the diagram and write down the coordinates of the point $S$.

## 2D Shape

1. Name each of the shapes below:
(a)

(d)

(b)

(e)

(c)

(f)

2. Draw in all the lines of symmetry on the shapes above.

3a. Which quadrilaterals have only one pair of equal length sides?
b. Which quadrilaterals have two pairs of equal length sides?
c. Which quadrilaterals have four equal length sides?
d. Which quadrilaterals have two pairs of parallel sides?
e. Which quadrilaterals have one pair of parallel sides?
f. Which quadrilaterals have diagonals of equal length?
4. Fill in the size of as many lengths and angles as possible:
(a)

(b)

(c)

(d)



## Percentages

1. Write each of the following as a fraction and as a decimal :-
(a) $41 \%$
(b) $93 \%$
(c) $7 \%$
(d) $23 \%$
2. Write down the simplest equivalent fraction to each of the following percentages :-
(a) $75 \%$
(b) $30 \%$
(c) $80 \%$
(d) $70 \%$
(e) $33 \frac{1}{3} \%$
(f) $66 \frac{2}{3} \%$
(g) $40 \%$
(h) $30 \%$.
3. Find the following, without a calculator :-
(a) $50 \%$ of $£ 9$
(b) $33 \frac{1}{3} \%$ of 360 metres
(c) $80 \%$ of $90 €$
(d) $25 \%$ of 300 p
(e) $60 \%$ of $240 p$
(f) $66 \frac{2}{3} \%$ of 120 kg
4. Patel scored $\frac{32}{50}$ for French, $\frac{45}{72}$ for Music, $\frac{18}{25}$ for English and $\frac{21}{30}$ for Maths. List Patel's subjects in order from best to worst.
5. A petrol lawn mower bought for $£ 180$ in 2001 has depreciated in value over the past few years.
It is now worth $84 \%$ less than its original value.


What is the mower worth today?
6. Cheryl in vested $£ 3400$ in a savings account with an interest rate of $4 \%$ per annum. Calculate the total amount in her account after 1 year.
7. Peter bought a TV set from Saturn Electrics. The cost was $£ 1200+$ VAT.

If VAT is charged at $20 \%$, find the total cost of the TV.

1. Write down three events that have a probability of 0 .

Write down three events that have a probability of 1 .
2. Sean has a box of pens.

The box contains 6 blue pens, 8 black pens and 3 red pens.
(a) What is the probability that he will pick a blue pen?
(b) What is the probability that he will pick a green pen?

Some more blue pens are added to the box.
The probability of selecting a blue pen is now $1 / 2$
(c) How many blue pens were added to the box?
3. The following cards are placed in a box.


A card is selected at random.

Find the probability that the number on the card is
(a) 3
(b) an odd number

## Answers

## Negative Numbers

1. 

(a) -1
(b) -2
(c) -5
(d) -4
(e) -2
(f) -1
(g) -3
(h) -8
(i) 2
(j) 6
(k) 3
(I) -5
(m) 3 (n) -2
(o) -9 (p) 6
(q) -5
(r) -5
(s) -9
(t) -6
(u) -10 (v) -13 (w) -21 (x) -28
2.
(a) 4
(b) -3
(c) -4
(d) -2
(e) -4
(f) -5
(g) -10
(h) 4
(i) -3
(j) -12
(k) -13
(I) -5
(m) -15 (n) 1
(0) -11
(p) -70
3.
(a) -4
(b) -4
(c) -12
(d) -7
(e) -13
(f) 13
(g) -13
(h) 3
(i) 5
(j) -3
(k) -17
(I) $-5 \quad(\mathrm{~m}) 17$
(n) -14
(o) -11
(p) -23
(q) 6
(r) 17
(s) -19
(t) -14
(u) -55
(v) -28
(w) -31
(x) 80
(y) 9
(z) 38
4. 7 degrees
$£ 20$
5.
(a) -2
(b) -8
(c) 5
(d) -8
(e) -6 (f) -7
6. $A(3,2)$
$B(-3,1)$
$C(-2,4)$
$D(-2,-1)$
$E(-3,-3)$
F(0,-1)
$G(1,-3)$
H(4,-2)
7b. $\quad D(2,7)$
8b. $S(1,6)$

## 2D Shape

1. 

(a) Kite
(b) parallelogram
(c) square
(d) Trapezium
(e) Rectangle
(f) Rhombus
2.


3a. Some trapeziums (trapezia)
b. Kites, Rectangles, Parallelograms,
c. Squares and rhombuses (rhombi)
d. Squares, rectangles, Parallelograms, rhombuses (rhombi)
e. Trapezium
4. a

b



## Percentages

1. a $\frac{41}{100}(0.41)$
b $\frac{93}{100}(0.93)$
c $\frac{7}{100}(0.7)$
d $\frac{23}{100}(0.23)$
2. . a $\frac{3}{4}$
b $\frac{3}{10}$
c $\frac{4}{5}$
d $\frac{7}{10}$
e $\frac{1}{3}$
f $\frac{2}{3}$
g $\frac{2}{5}$
h $\frac{3}{10}$
3. a $£ 4.50$
b 120 m
c 72
d $75 p$
e $144 p$
f 80 kg
4. English (72\%) Maths (70\%) French (64\%) Music (62.5\%)
5. £28.80
6. £3536
7. £1440

Probability

1. eg If today it is Friday, tomorrow will be Monday
eg If you are sixteen now, you will be seventeen on your next birthday
2. $\quad P($ blue $)=6 / 17 \quad P($ green $)=0 \quad 5$ blue pens are added.
3. $\quad P(3)=1 / 6 \quad P($ odd $)=3 / 6=1 / 2$
