The City School

**NNBC**

**Class: 7 Subject: Math**

**Question Bank for grade 7**

**Numbers and Integers/Estimation and Approximation (numbers and decimals)**

Q1. Evaluate the following.

1. (-4) x 1 x (8) ÷ 2 x 4
2. (-3)2 – (-4 x 3) + (1 x 42)

Q2. Place the following in descending order.

$\frac{33}{100}$, 33$\frac{1}{3} $,$\frac{3}{25} $,$ \frac{3}{50} $,$\frac{67}{200}$

Q3. Estimate the value of

1. $\frac{64.11}{1.62}$
2. 56.96713 -34.23067

Correct to 1 significant figure.

Q4. Express 1.499 correct to

1. 2 decimal places
2. 3 significant figures

Q5. Evaluate

1. $\frac{2}{3}$ - $\frac{3}{5}$
2. 32.5 $÷$ 13
3. 1$\frac{1}{5 }$ $÷$ 2$\frac{1}{3}$

Q6. Aishah buys some exercise books for $6.05.

1. How much change will she get from $10?
2. How many exercise books she buy if each book costs 55 cents?

Q7.$\frac{2}{3}$ Of a plot of land is garden.

$\frac{1}{5}$ Of the garden is lawn.

Find the fraction of the plot of land which is lawn.

Q8. It is given that$\frac{2}{3}$, $\frac{8}{d}$ and $\frac{n}{39}$ are equivalent fractions. Find the value of d and the value of n.

Q9. A group of people were standing in line. 3/8 of the people were boys and 1/4 of the people were girls. How much of the group was made up of boys and girls?

 How much of the group was not boys or girls?

Q 10. a) Jane and Jerry were counting the months until their birthdays. Jane said3/4 of the year would pass before it was her birthday. Jerry said he only needed to wait 1/3 of the year. How much longer did Jane have to wait than Jerry?

 Change your answer to ‘how many’ months.

b) Bill ran around 2/3 of the track. Josh ran around 5/6 of the track. How much farther did Josh run than Bill?

c) A box of paper clips fell on the floor. Betty picked up 2/5 of the paper clips and Joanne picked up 3/10. How many of the paper clips did they pick up altogether?

 How many were still on the floor?

d) How many sweets would be in a bag of 28 sweets after ¼ of them had been eaten?

1. A paint mixture is made up of $\frac{3}{20}$ red paint and $\frac{9}{20}$ blue paint and the rest is white.
2. What fraction of the mixture is white paint?
3. The paint is sold in 5-litre containers. How many litres of red paint are needed for each container?
4. How many litres of blue paint are needed for each container?
5. Jason has 5 feet of rope. If Jason cuts the rope into ¼ foot pieces, how may pieces will he have?
6. If $\frac{1}{3}$ of a sum of money is $21, what is the sum of money?
7. Rachel spends 1/4 of her pocket money on chocolates, 1/8 on pizza. At the end she had $ 40 left. How much did she have at the beginning?

Q11.

a) Find the 40th term in the sequence:

 5; 2; -1; -4…

b) The seating of a sports stadium is arranged so that the first row has 15 seats, the second row has 19 seats; the third row has 23 seats and so on. Calculate how many seats are in the twenty-fifth row.

c) Which term in the sequence

 1; -2; -5; …. is equal to -32?

d) In each case the general term is given write down the first three terms of the sequence:

4.1 4.2

 e) Write down the next three terms of the sequence:

 6; 4; 0; -6; …

e) Find the formula for the general term of the sequence:

 6; 10; 14; 18; …

Q12.



1. Draw the next two diagrams in the sequence.
2. Copy and complete this table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of white tiles | 1 | 2 | 3 | 4 | 5 |
| Number of blue tiles |  |  |  |  |  |

1. Describe the pattern linking the number of white tiles and the number of blue tiles.
2. Use your rule in part c) to predict the number of blue tiles in a pattern with 100 white tiles.

Q13.



1. Draw the next two diagrams in the sequence.
2. Copy and complete this table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of white tiles | 1 | 2 | 3 | 4 | 5 |
| Number of yellow tiles |  |  |  |  |  |

1. Describe the pattern linking the number of white tiles and the number of yellow tiles.
2. Use your rule in part c) to predict the number of yellow tiles in pattern with 100 white tiles.

Q14. For each of the sequences

1. Find the nth term of yellow tiles
2. Write down the next two terms of the sequence
3. Calculate the tenth term
4. 2 4 6 8 10
5. 144 132 120 108
6. 9 18 27 36 45

Q15. How many milligrams are there in 1 tonne?

a) Convert the following to the units stated in the brackets.

* + 1. 0.008 m (mm) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		2. 6.8 cm (mm) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		3. 0.05 km (m) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		4. 175600 m (km) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		5. 0.002 tonne (kg) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
		6. 6.6 litres (ml) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Q16. a) Work out the area of the shape given below. Give your answers correct to two decimal places. (Take π =).

* 1. Find the area of the given shape. (Take π =).

6cm

* 1. In the given rectangle the circular portions are quadrants. Calculate the area of the shaded region. (Take π =).



* 1. Write in the missing numbers to make each of these calculations correct.
		1. $\left(-7\right)×\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_=(-21)$
		2. $\left(+6\right)×\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_=(-48)$
		3. $\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_\\_ ×(-5)=(+15)$
	2. Calculate the value of a – b when a = ½ and b = -½
	3. Write an expression for the area of a rectangle 9 units long and (2x – 7) units wide
	4. Write an expression for the perimeter of the rectangle in f).
	5. A square has side length (p-1) units. Write an expression for its perimeter.
	6. y= 4uv-3v

Find the value of y when u= -3 and v=2



* 1. This diagram shows two circular discs inside a rectangular frame. The discs just fit inside the frame. Calculate the area of the rectangle not covered by the discs.
	2. If $∛x$ =2, then x=\_\_\_\_\_\_\_\_\_
	3. Simplify

$\frac{3y-2}{6} $ - $\frac{y+9}{9}$

* 1. Solve:
1. 8.3 – 3x = 2.6 ii) $\frac{15}{2x - 1}$ = 5
	1. Complete the table given below:

|  |  |  |
| --- | --- | --- |
| S.No. | Column 1 | Column 2 |
| 1 |  | A= $\frac{x + y + z}{3}$ |
| 2 | The total cost $T of d chairs at $p each and c tables at $Q each |  |

Q17. Three beakers contain 0.5 liters, 0.42 litres and 220 ml of solution.

1. What is the total volume of the solution in millilitres?
2. How many litres of water is needed to make the volume of solution up to 1.25 litres?

Q18.Four boys share a certain amount of money. The first boy receives $\frac{1}{6 }$ of it, the second $\frac{1}{4}$ and the third$\frac{1}{2}$. If the boy received $ 5, how much was the sum of money shared?