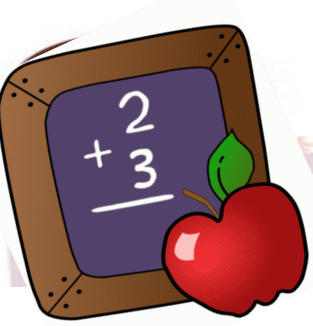

Math
6th prim

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Model Exam (1)

Question 1 : Choose the correct answer :

1) If the perimeter of one face of a cube equals 20 cm then its total area = ... cm^2 **a)** 100 **b)**120 **c)**150 **d)**200

2) If X = 10 , Y = -2 , then the negative number in the following is .....

a) $x^2 + y$ **b)** $x + y^2$ **c)** $x^2 - y$ **d)** $x\,y$

3) The image of the point A (- 4 , 3) by the translation (- 1 , -4) is .....

a) $(-5, -7)$ **b)** $(-5, -1)$ **c)** $(-7, 3)$ **d)** $(-3, -1)$

4) If $2x + 5 > 3$, $x \ni z$, then the solution set of the inequality is .....

a) N **b)** N – { zero } **c)** z_- **d)** z_+

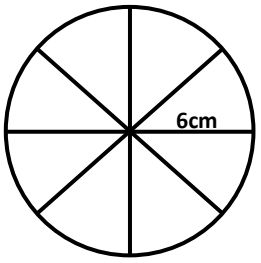
5) If $x + 3 = 8$, $x \in z^-$ then the solution set is .....

a) { -3 } **b)** { 5 } **c)** { -5 } **d)** $\emptyset$

Question 2 :

a) **In the opposite figure**

A circle M of radius 6cm is divided in to 8 circular sectors equal in area Find the area of one sector and the measure of the central angel of the sector ($\pi = \frac{22}{7}$)



b) Locate in the Cartesian coordinates plane the points A (-3 , 4) , B (1 , 4) , C (1 , 2) then Find

1) AB = ... , BC = ...

2) The image of Δ ABC by the translation (0 , -3)

Question (3)

a) The length of a room is 5 meters an its width is 4 meters and its height is 3 meters it is wanted to paint its walls and ceiling with painting , the cost of painting one square meter is L.E. 15.Calculate the cost of painting

b) Use the properties of addition and multiplication in Z to Find

a) $(8 + (-5)) \times 6$ b) $-15 + 29 + 15$

Question (4)

1) The following table shows the percentage of production for four factories of iron.

Factory	First	Second	Third	Fourth
Percentage	35%	15%	20%	.....

Represent these data using the pie chart.

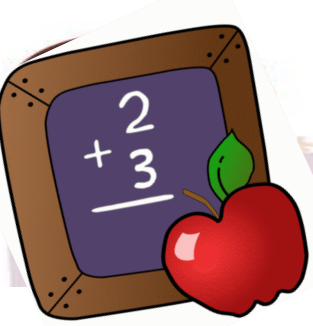
Question 5 :Complete:

1) $\frac{5^7 \times (-5)^2}{5^6}$

2) $N \cap Z = . \ldots \ldots \ldots \ldots \ldots$

3) The diameter length of a circle is 14cm so its area is .....

4) If a regular die rolled once to observe the number of dots on the appearance, then the probability of the appearance of a number less than 5 is .....



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Model Exam (2)

Question 1 : Complete :

1) $Z^+ \cap Z^- =$. … … … … … … ..

2) $\frac{(-7)^5 \times (-7)^2}{(-7)^6} =$. … … … … … … … ….

3) 2 , 6 , 10 , 14 , ……

4) 7 [6 + (-3)] = ……

5) If $| x | = 7$ *then* $x =$. … … … … … …

Question 2 : Choose the correct answer :

1) Z – N = …… (Z_+ , { 0 } , Z^- , 0)

2) Circle its diameter 8cm then its area = …… $\pi\ cm^2$

(9 , 8 , 16 , 64)

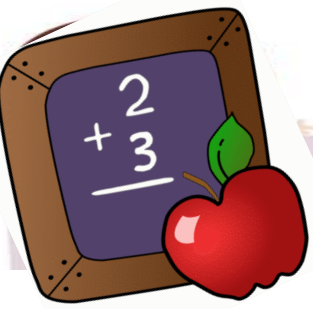
3) If A ⊂ { 2 , -5 , -3 } ∩ { 5 , -2 , -3 } then A = ……

(-5 , { -5 } , -3 , { -3 })

4) Then measure of the angle of the sector which represents $\frac{1}{4}$ the circle equals …… (30° , 45° , 60° , 90°)

5) The point (2,3) its image is (5, - 5) by translation……

((- 3, - 2) , (7 , - 2) , (3 , - 8))



Question 3 :

1) Find the S.S of $2\ (x+3) = -2$ where $x \in N$

2) Find the solution set of the inequality then represent it on a number line. $2x + 3 \leq 5$

Question 4 :

a) Using the properties of addition Find: **518 + (-119) + (-18) + 119**

b) A box in the shape of a cuboid without Lid. The inner dimensions of its base are 2.5m and 1.5m and its inner height is 70cm it is wanted to cover its side faces and the floor with iron sheet, the price of the square meter of it is L.E 10

Find : **1)** The area covered with the iron sheets .

2) The price of the iron sheet which are used.

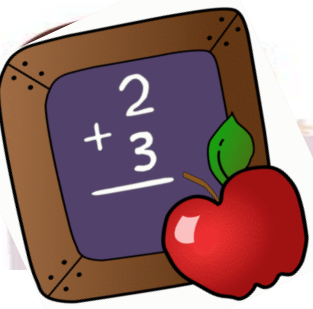
Question 5 :

a) A Box contains 5 white balls , 3 blue balls and 8 red balls , the all are identical a ball is drawn blindly. What is the probability that the drawn ball is **a)** green. **b)** not red. **C)** blue or red

b) The following table shows the percentage of the number of students participates in the school activities.

The Activity	Culture	Sport	Social	Art
The Percentage	5 %	45%	15 %	.....

Represent data by pie charts



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Model Exam (3)

Question 1 : Choose the correct answers :

a) $(3)^0 + (-3)^0 =$. … … … … … …. (6 , 0 , 1 , 2)

b) The value of expression $3 \times (-5) - (2 \times 3)^2 \div 4 =$. … … … … … …

(-31 , -16 , $\frac{-15}{12}$, -24)

c) $Z^+ \cup Z^- =$. … … … … … … (∅ , N , Z – { 0 } , Z)

d) A coin is tossed 250 times then the closest expected number of appearing a head equals (124 , 127 , 150 , 199)

e) $2^3 \times 2^5 =$. … … … … … … (2^8 , 2^{15} , 4^8 , 4^{15})

✿✿✿✿✿✿✿✿✿✿✿✿✿✿

Question 2 :

a) If $x + 3 = |-7|$ *then* $x =$. … … … … … …

b) The surface area of the circle = ……

c) The solution set of the equation $4x + 1 = 17$ where $x \in N$

d) A cube its edge is 4cm the total area = …… cm^2

Question 3 :

a) The perimeter of the base of cuboid is 32 its height = 10cm , the length of its base = 9cm calculate

1) Its lateral area. **2)** Total area.

b) If $6x + 7 = 25$, Find the value of X?

Question 4 :

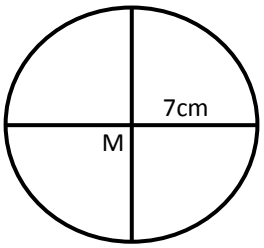
a) In experiment of throwing a fair die once and observing the number of dots on the upper face – write the sample space then find the probability of each of the following events

1) Getting a number greater than 6.
2) Getting a number satisfies the inequality $3 < x < 5$

b) **In the opposite figure**

A circle M of radius length 7cm

Is divided in to four equal circular sectors



Calculate the surface area of one Sector where $\pi = \frac{22}{7}$

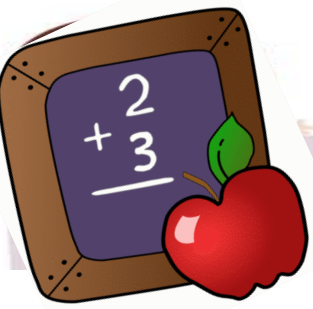
Question 5 :

a) Find the result of $\frac{(-3)^{10} \times (3)^5}{3^{12}}$

b) The following tables shows the percentages of the production of chickens in four farms within one month.

The Farm	1st	2nd	3rd	4th
The Percentage	10 %	35%	30 %	.....

Represent by pie charts



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Model Exam (4)

Question 1 : Choose the correct answers :

1) The measure of the angle of circular sector whose area represent 0.25 from the area of the circle = ……°

a) 180 **b)** 120 **c)** 90 **d)** 60

2) If a die is rolled once then the probability of getting number > 3 is ……

a) 1 **b)** $\frac{1}{2}$ **c)** $\frac{1}{3}$ **d)** $\frac{1}{6}$

3) If $x + 3 = 8$, $x \in Z^-$, then the solution set is ……

a) $\{-3\}$ **b)** $\{5\}$ **c)** $\{-5\}$ **d)** $\emptyset$

4) The image of point (3 , -2) by translation (-3 , 2) is ……

a) (0 , 0) **b)** (2 , 0) **c)** (3 , 0) **d)** (6 , 4)

Question 2 : Complete :

a) $\frac{5^6 \times (-5)^7}{5^9}$ = ……

b) $(-6) \times [\,(-3) + 2\,] =$ …….

c) 1 , 1 , 2 , 3 , 5 , 8 , ……. , ……. , ……. , …….

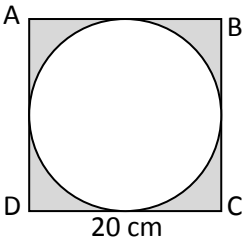
Question 3 :

a) Find the solution set of the inequality $2x + 1 < 5$ where $x \in z$ then represent the solution set on the number line.

Question 4 :

In the opposite figure :

a) ABCD is a square of side length 20cm. find the area of the shaded part in cm^2 ($\pi = 3.14$)



b) In a Cartesian Co-ordinates plane locate the point A (0 , 4) , B (2 , 1) , C (-2 , 1) then Find :

First : The length of $\overline{BC}$

Second : The image of Δ ABC by translation (0 , -2)

Question 5 :

a) A basket contains balls numbered from 1 to 15 a ball is drawn randomly. What is the probability that the drawn ball.

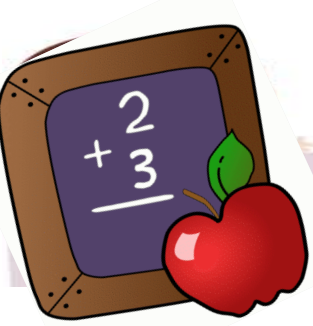
First : carries an even number.

Second: carries a number greater or equal to 11

b) The following table shows the percentages of the production of a factory for three kinds of electric water heater

The kind	First	Second	Third
The Percentage	25 %	50 %	25 %

Represent these data by using circular sector.



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Model Answer (1)

Q 1 : Choose the correct answer :

1) $E = P \div 4$

$= 20 \div 4 = 5cm$

T.A = $E \times E \times 6 = 5 \times 5 \times 6 = 150\ cm^2$

2) d) $xy = 10\ x - 2 = -20$

3) $\left(-4 + (-1), 3 + (-4)\right) = (-5, -1)$

4) $2x > 3 - 5$

$2x > -2$

$x > \frac{-2}{2}$

$x > -1$

Solution Set = { 0 , 1 , 2 , 3 , ... } = N

5) $x = 8 - 3$

$x = 5 \notin Z^-$

Solution Set = $\emptyset$

Q2 :

a) A of the circle = $\pi\ r^2 = \frac{22}{7} \times 6^2$

$= 113.14\ cm^2$

A: of one sector = $113.14 \div 8 = 14.14\ cm^2$

Measure of central angle = $360 \div 8 = 45^\circ$

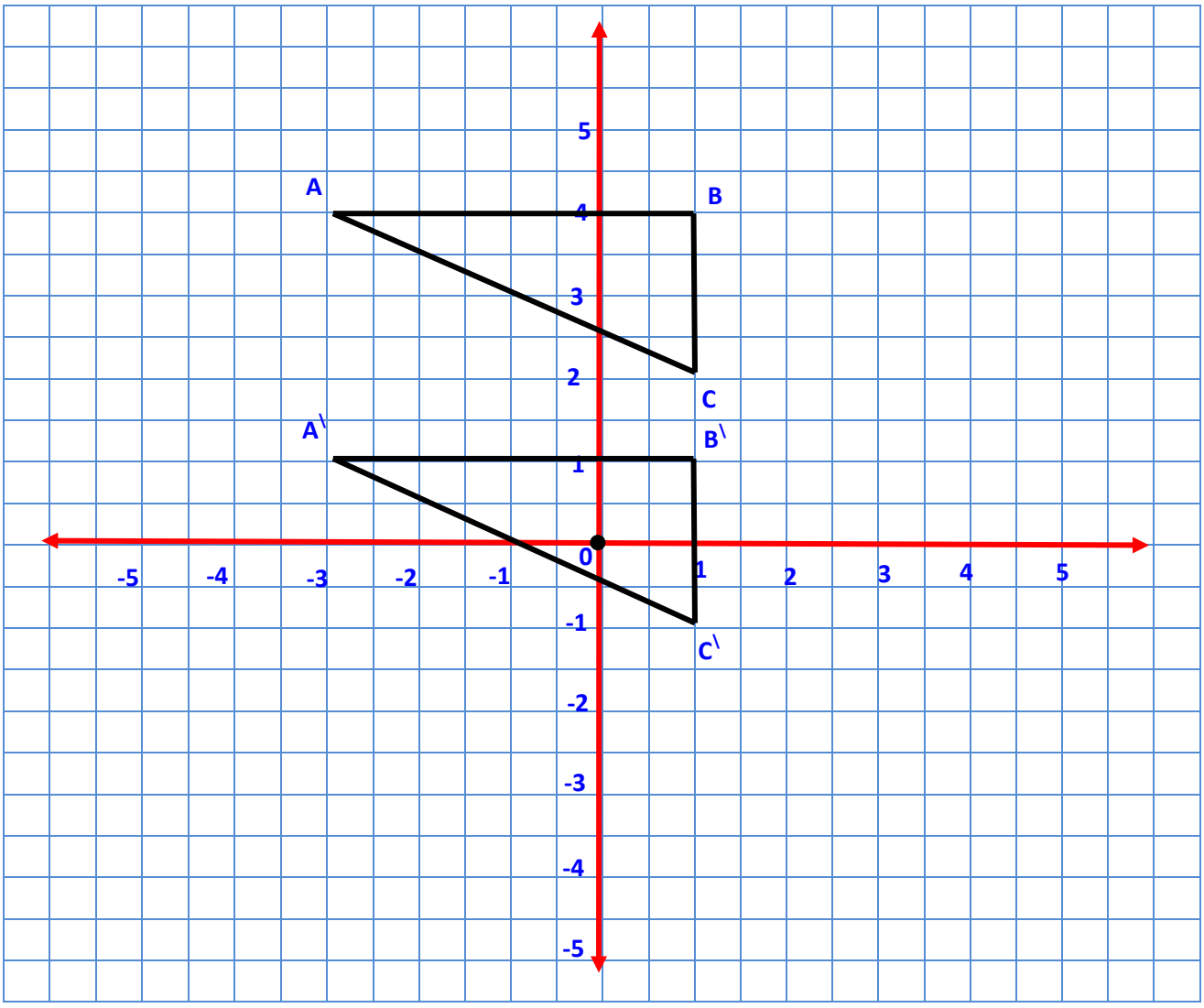
b) A (-3 , 4) → (0 , -3) → A\ (-3 , 1)

B (1 , 4) → (0,-3) → B\ (1 , 1)

C (1 , 2) → (0 , -3) → C\ (1 , -1)

AB = $| B - A | = | 1 - (-3)| = |4| = 4\ units$

BC = $| C - B| = |2 - 4| = |-2| = 2\ units$



Q3 :

a) $L.A = P.of\ base \times height$

$= 18 \times 3 = 54m^2$

T.A = L.A + A. of one face

$54 + 20 = 74m^2$

The Cost = $74 \times 15 = 1110\ L.E$

$P. = (L + w) \times 2$

$= (5 + 4) \times 2$

$= 18\ m$

$A = L \times W$

$5 \times 4 = 20m^2$

b) $8 \times 6 + (-5) \times 6$

$= 48 + (-30)$ distribution property

$= 18$

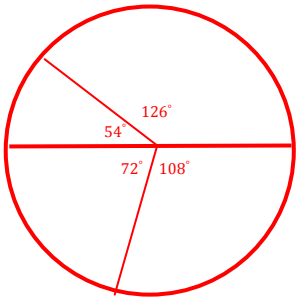
c) $-15 + 15 + 29$ commtative properly

$= (-15 + 15) + 29$ associative property

$= 0 + 29$ additive inverse

$= 29$ additive identity

Q4:



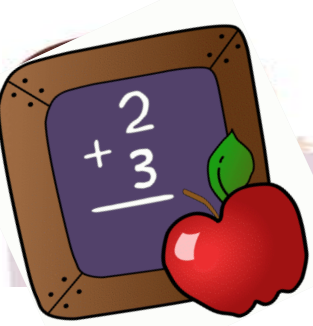
Q5: **1)** $\frac{5^7 \times (-5)^2}{5^6} = \frac{5^9}{5^6} = 125$

2) N

3) $R = d \div 2 = 14 \div 2 = 7cm$

$A = \pi r^2 = \frac{22}{7} x\ 7^2 = 154\ cm^2$

4) $\frac{4}{6} = \frac{2}{3}$



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Model Answer (2)

Q 1 : Choose the correct answer :

1) $\emptyset$

2) $\frac{(-7)^7}{(-7)^6} = (-7)^1 = -7$

3) 18 (the pattern add 4)

4) $(7 \times 6) + (7 \times (-3)) = 42 + (-21) = 21$

5) $7 \; or \; -7$

Q2 :

1) Z^- **2)** 16 **3)** $\{-3\}$ **4)** $\frac{1}{4} \times 360 = 90^\circ$

5) (5, -5) – (2 , 3) = (3 , - 8)

Q3 :

1) $x + 3 = \frac{-2}{2}$

$x + 3 = -1$

$x = -1 - 3$

$x = -4 \notin N$

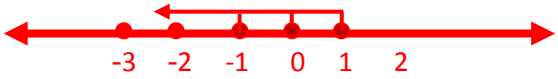
$S.S = \emptyset$

2) $2x \leq 5 - 3$

$2x \leq 2$

$x \leq \frac{2}{2}$

$x \leq 1$ S.S = { 1 , 0 , -1 , ... }



Q4 :

a) 518 + (-18) + (-119) + 119 commutative

= (518 + (-18)) + ((-119) + 119) associative

= 500 + 0 additive inverse

= 500 additive identity

b)

a) $L.A = P \times h$

$= 8 \times 0.7 = 5.6\ m^2$

T.A = L.A + Base Area

$= 5.6 + 3.75 = 9.35\ m^2$

The Cost = $9.35 \times 10 = 93.5\ L.E$

$P. = (L + w) \times 2$

$= (2.5 + 1.5) \times 2$

$= 8\ m$

$A = L \times W$

$2.5 \times 1.5 = 3.75\ m^2$

Q5 :

a) 1) $\frac{0}{16} = 0$ impossible

2) $\frac{8}{16} = \frac{1}{2}$

3) $\frac{11}{16}$

b) Percentage of culture =

$= 100\% - (5\% + 45\% + 15\%) = 35\%$

measure of culture angle $= \frac{5}{100} \times 360 = 18^\circ$

measure of sportagle $= \frac{45}{100} \times 360 = 162^\circ$

measure of social angle $= \frac{15}{100} \times 360 = 54^\circ$

meausre of art angle $= \frac{35}{100} \times 360 = 126^\circ$

Model Answer (3)

Q 1 : Choose the correct answer :

a) $1 + 1 = 2$

b) -24

c) $Z - \{0\}$

d) $250 \times \frac{1}{2} = 125$ *the closest* $= 124$

e) 2^8

Q2 : Complete :

a) $x = 7 - 3$

$x = 4$

b) $\pi\, r^2$

c) $4x = 17 - 1$

$4x = 16$

$x = \frac{16}{4} = 4 \qquad S.S = \{4\}$

d) Base Area = $E \times E = 4 \times 4 = 16cm^2$

$T.A = Base\ area \times 6 = 16 \times 6 = 96\ cm^2$

Q3 :

a) Lateral Area = P. of the base ×h

$$32 \times 10 = 320\ cm^2$$

$$w = \frac{P}{2} - L = \frac{32}{2} - 9 = 16 - 9 = 7cm$$

Base Area = $L \times w = 9 \times 7 = 63\ cm^2$

Total Area = $L.A + 2 \times base\ area$

$$320 + 2 \times 63 = 446\ cm^2$$

b) $6x = 25 - 7 = 18$

$$x = 18 \div 6 = 3$$

Q4: a) sample space = { 1 , 2 , 3 , 4 , 5 , 6 }

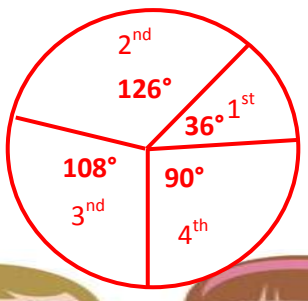
First = $\frac{0}{6} = 0$ Second = $\frac{1}{6}$

b) Area of circle = $r^2 \times \pi = 7^2 \times \frac{22}{7} = 154\ cm^2$

Area of one sector = $\frac{154}{4} = 38.5\ cm^2$

Q5 : a) $\frac{3^{10} x\ 3^5}{3^{12}} = \frac{3^{10+5}}{3^{12}} = \frac{3^{15}}{3^{12}} = 3^3 = 27$

The Form	1st	2nd	3rd	4th	Total
The Percentage	10 %	35%	30 %	25%	100%
Measure of	36°	126°	108°	90°	360°



Model Answer (4)

Q 1 : Choose the correct answer :

1) 90 **2)** $\frac{1}{2}$ **3)** $x = 8 - 3 = 5 \notin Z \ \ S.S = \emptyset$

4) (3 , -2) (-3 , 2) (0 , 0)

Q 2 : Complete :

a) $\frac{-(5)^{13}}{5^9} = -(5)^4 = -625$

b) $(-6) \times (-3) + (-6) \times 2 = 18 + (-12) = 6$

c) 13 , 21 , 34 , 55

Q 3:

$2x + 1 < 5$

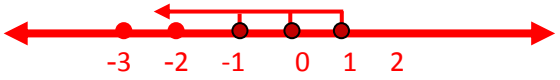
$2x < 5 - 1$

$2x < 4$

$x < 4 \div 2$

$x < 2$

$S.S = \{ 1 , 0 , -1 , -2 , \ldots\ldots\ldots\ldots \}$



Q 4:

a) Area of equare = $S \times S = 20 \times 20 = 400\ cm^2$

$r = 20 \div 2 = 10cm.$

Area of circle = $\pi\ r^2 = 3.14 \times (10)^2 = 314\ cm^2$

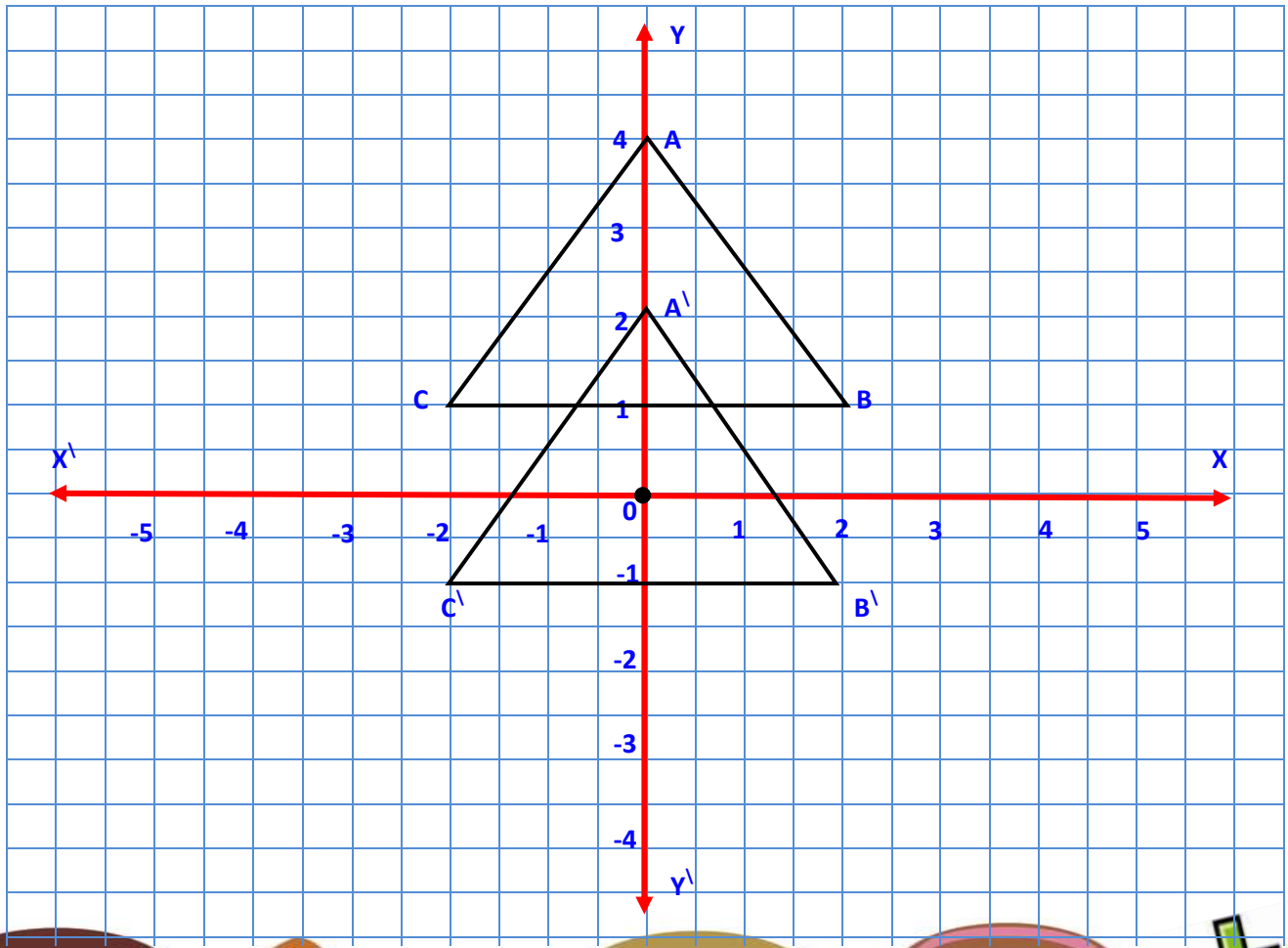
Area of shaded part $= 400 - 314 = 86\ cm^2$

b) First : $\overline{BC} = |\ C - B\ | = |-2 - 2\ | = |-4| = 4\ units\ length$

Second : A (0 , 4) (0 , -2) $A^{\setminus}$ (0 , 2)

B (2 , 1) (0 , -2) $B^{\setminus}$ (2 , -1)

C (-2 , 1) (0 , -2) $C^{\setminus}$ (-2 , -1)



Q 5:

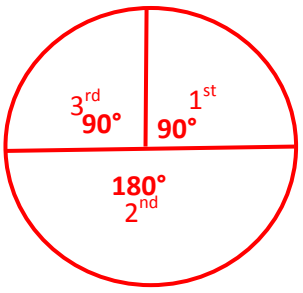
a) (S) = { 1 , 2 , 3 , 4 , 5 , 6 , 7 , 8 , 9 , 10 , 11 , 12 , 13 , 14 , 15 }

N (S) = 15

First : $P(A) = \frac{7}{15}$

Second : $P(B) = \frac{5}{15} = \frac{1}{3}$

B) **First** = $\frac{25}{100} \times 360 = 90°$

Second= $\frac{50}{100} \times 360 = 180°$

Third=$\frac{25}{100} \times 360 = 90°$