Unit 1

Sets

Review Worksheet

1. Choose the correct option.

i. Tabular form of $\{x : x \in N, x \leq 3\}$ is _____.

A. {I, 2} B. {0, I, 2}

C. {0, I, 2, 3} D. {I, 2, 3}

ii. In general, the statement _____ is not true.

A. $A \cup B = B \cup A$ B. $A \cap B = B \cap A$

C. $A - B = B - A$ D. $A - \emptyset = A$

iii. If A = {I, 2, 3, 4, 5} and B = {I, 2, 5} then _____.

A. $A \subseteq B$ B. $B \subseteq A$

C. $A \cup B = B$ D. $A \cap B = \emptyset$

iv. The shaded region of the given Venn diagram represents _____.

A. $A \cap B \cap C$ B. $A \cup B \cup C$

C. $A \cap B \cup C$ D. $A - (B \cap C)$

v. If U is universal set and A is a subset of U then $A \cup A' =$ _____.

A. U B. A

C. $\emptyset$ D. A'

2. If A = {a, b, c, d}, then

a. find out the number of elements of its power set using formula.

b. Write down the elements of the power set.

3. If U = {$x : x \in$ N, x I0}, A = {I, 2, 3, 4, 5}, and B = {4, 5, 6, 7, 8}, then find the following.

a. A ∪ B	**b.** A ∩ B
c. A – B	**d.** B – A
e. A'	**f.** B'
g. A' ∩ B'	**h.** (A – B)'
i. A' ∪ B'	**j.** (B – A)'
k. (A ∪ B)’	**l.** (A ∩ B)’

4. If U = $\{x : x \in$ N x I0$\}$ X = {I, 2, 3, 4, 5, 6} and Y = {4, 5, 6, 7, 8, 9, I0}

Prove that:

a. X – Y = X ∩ Y'

b. Y – X = Y ∩ X'

c. (X ∪ Y)' = X' ∩ Y'

d. X-Y' = Y-X'

e. (X')' = X

5. If U = {0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11},

M = Set of multiple of 3 less than 12, and E = Set of even number less than 10, then represent the sets using Venn diagram.

6. Prove De-Morgan's laws for the sets A and B.

U = {1, 2, 3, 4, 5, 6}, A = {1, 3, 6}, and B = {2, 4, 6}

7. Use Venn diagram to prove De-Morgan's laws for the sets X and Y.

U = {a, b, c, d, e, f, g}, X = {a, b, c, d}, and Y = {b, d, f}.

8. Prove associative law of union and distributive law of union over intersection using the following sets.

A = {5, I5, 20, 25, 35} , B= {5, I5, 20, 25, 35, 45}, C = {5, I0, 20, 25, 30}

Unit 2

Real Numbers

Review Worksheet

1. Choose the correct option.

i. The value of 18.253 to nearest I decimal place is _____.

A. 18.3 B. 18.4

C. 18.5 D. 18.0

ii. The value of 4.3062 has _____ significant figures.

A. 3 B. 2

C. 5 D. 4

iii. The value of 0.0001 has _____ non-significant figures.

A. 2 B. 3

C. 4 D. 1

iv. The value of 1273.866, correct to 6 significant figures, is_____.

A. 273.87 B. 273.80

C. 1270 D. 1273.90

v. The square root of 225 is _____.

A. 5 B. 15

C. 25 D. 125

2. Find decimal approximation.

a. 9.62 to nearest whole number	b. 16.74 to nearest I decimal place
c. 0.648 to 2 decimal places	d. 0.3757 to 3 decimal places
e. 0.81642 to 4 decimal places	f. 0.9876525 5 decimal places

3. Write the number 194.8693 correct to

a. 3 d.p	**b.** 3 s.f
c. 2 s.f	**d.** 1 d.p
e. 5 s.f	**f.** 1 s.f.

4. Write each of the following numbers correct to 3- significant figures.

a. 87215	**b.** 707862
c. 26.352	**d.** 0.004157
e. 0.2563	**f.** 0.003735
g. 8.5324	**h.** 60163

i. 4.7324	**j.** 19.2062
k. 0.025960	**l.** 134578

5. A book has 328 pages with an average of 270.3 words on each page. Estimate the number of words in the book.

6. Estimate the circumference of a circle to 2 decimal places with radius of 23.7 cm.

7. Volume of the cube is 4913 m^3. Find the length of one side of the cube and area of one of its faces.

8. A square field has an area of 289 m^2. Find its perimeter.

Unit 3

Compound Proportion

Review Worksheet

1. Choose the correct option.

i. If two quantities are related to each other in such a way that if one increases the other also increases, the relationship is said to be _____.

A. inversely proportional **B.** positive proportion

C. directly proportional **D.** negative proportion

ii. If the cost of one dozen egg is rupees 180, then the cost of 3 eggs is _____.

A. Rs 30 **B.** Rs 40

C. Rs 45 **D.** Rs 50

iii. For $y \propto x$, the equation is _____.

A. $x = ky$ **B.** $x = y$

C. $y = \frac{k}{x}$ **D.** $y = \frac{k}{x}$

iv. For $y \propto \frac{1}{x}$, the equation is _____.

A. $x = ky$ **B.** $x = y$

C. $y = \frac{k}{x}$ **D.** $y = \frac{k}{x}$

v. The graph of directly proportional quantities is always a _____ line.

A. curve **B.** straight

C. horizontal **D.** vertical

2. Ajourney takes 3 hours, travellinfg at a constant speed of 50 km/h. If the same journey takes 2 hours at a constant speed, what is the speed?

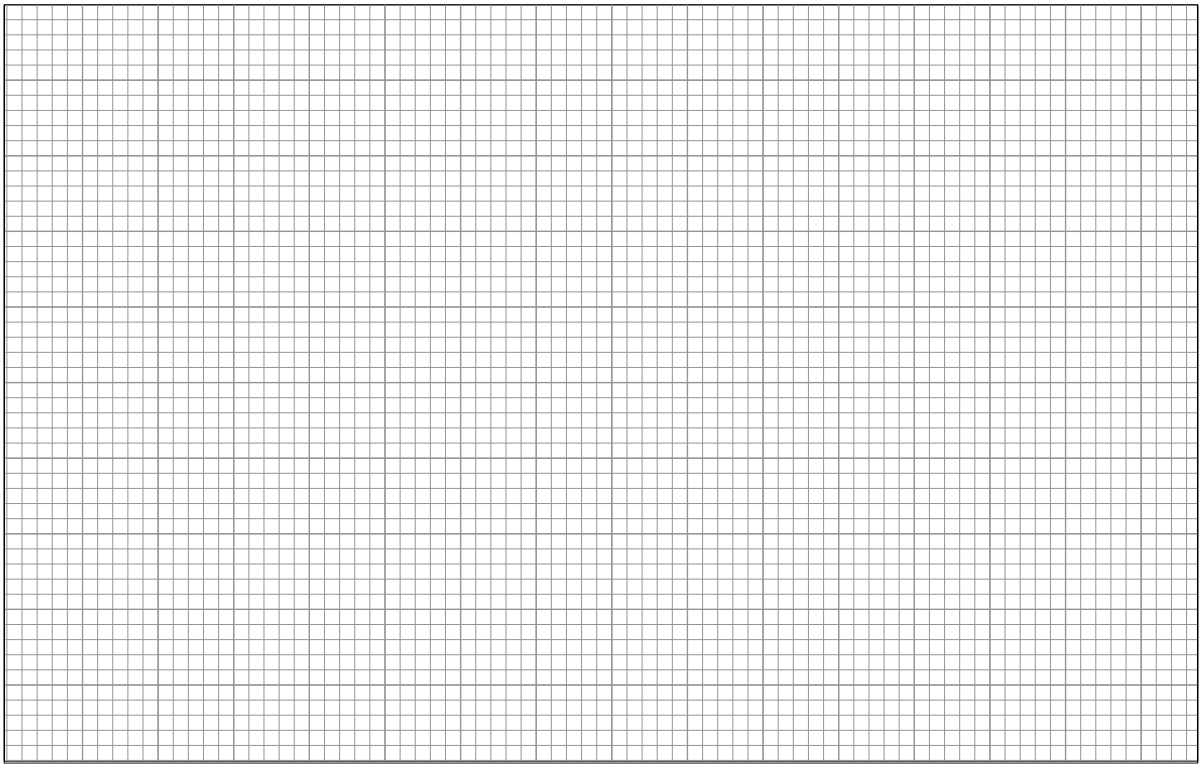
3. A car uses 8 litres of diesel on a journey of 106 kilometres. At this rate, how far will the car go on 7 litres of diesel?

4. On regular bases 33 men can do $\frac{1}{3}^{rd}$ of a work in 12 days working 10 hours daily. How much time is required daily to complete remaining work in six days if three men are not available now?

5. A contractor got a contract to construct a bridge in 96 days. He employed 40 workers. After 60 days, $\frac{2}{5}$ work was completed. How many more workers are required to complete the work in specified time?

6. Given that $y \propto x$, complete the table to draw the graph of the relationship between x and y on the axes.

x	1	2	3	4	5
y			12		



7. If y is directly proportional to x,

a. Find the constant k, if y = 9 when x = 6.

b. Give the equation expressing y in terms of x.

c. Complete the given table.

x	2	6		14	18
y	3	9	15		27

d. Draw the graph of y against x.

8. It is given that y is inversely proportional to x.

a. Find the value of constant k, if $x = 2$ and $y = 18$.

b. Write down the equation expressing y in terms of x.

c. Find value of y when $x = 3$ using above equation.

d. Complete the following table and draw the graph.

x	1	2	3	4	6
y		18		9	

Unit 4

Financial Arithmetic

Review Worksheet

1. Choose the correct option.

i. If one Saudi Riyal is of Rs 40, then _____ can be purchased for Pakistani rupees 1600.

A. Rs 6400 **B.** SR 401

C. SR 40 **D.** SR 45

ii. In 10 years, the markup for the principle of Rs 100 at 10%, will be _____.

A. Rs 100 **B.** 10,000

C. Rs 1000 **D.** Rs 10

iii. Zameer deposited Rs 15,000 in her saving account. If he gets a profit of Rs 900 after one year, then the rate of profit is _____.

A. 2% **B.** 6%

C. 8% **D.** 10%

iv. A mobile phones costs Rs 25,000 _____ is the rate of discount if it was purchased for Rs 24,500.

A. 3% **B.** 2.5%

C. 2% **D.** 4%

v. According to Islamic laws of inheritance, a son inherits _____ the share of a daughter.

A. half **B.** same as

C. twice **D.** thrice

2. Farhad purchases a painting for Rs 12,000 and a trolley for Rs 3000. He sells the items for Rs 13,000 and Rs 2500, respectively. Calculate the profit or loss percentage on both items.

3. A shopkeeper offers his customers successive discounts of 10% and 5% respectively. If the marked price of an article is Rs 400, find its selling price.

4. Maira got an insurance policy worth Rs 5,00,000 for her car at the rate of 4.5% for three years. Find the total premium paid by her rate of depreciation is 10%.

5. How much premium does Bilal pay if he has a life insurance policy of Rs 12,000,000 and the premium rate is 2%?

6. A man leaves Rs 240,000 to his three heirs Ali, Omer, and Kamal. According to his will it is to be distributed in the ratio of 5 : 4 : 3. How much of the inheritance does each heir receive?

7. Farhana and Khalid started a business worth Rs 50,000 and Rs 40,000 respectively. After six months, Khalid took his money back and Asim joined Farhana with an investment of Rs 70,000. They got a profit of Rs 63,000 at the end of the year, find the share of each.

8. A man died leaving the property of Rs 430,000. He left a widow, a son and 2 daughters as deceased. How much amount each get according to the Islamic laws of inheritance?

9. Iman arrives in the United States with Rs 200,000. The conversion rate is US$ = Rs 210. Iman converts half her money into US$. The next day the conversion rate is US$ = Rs 200. Iman converts the rest of her rupees into dollars. How many dollars does she have in total?

10. What is the discount percentage on a pair of vases if the marked price is Rs 4000 and they are sold for Rs 3700 to a customer?

Unit 5

Algebra: Polynomials

Review Worksheet

1. Choose the correct options.

i. The exponent form of $6 \times 6 \times 6 \times 6 \times 6$ is _____

A. 5^6 **B.** 6^6

C. 6^5 **D.** 6^3

ii. For any non-zero real number a, $a^m \times a^n$ = _____.

A. a^{m+n} **B.** $(m+n)^a$

C. a^{m-n} **D.** $a^m + a^n$

iii. If first term of a sequence is a_1 and constant difference is d, then nth term T_n is _____.

A. $d_1 + (n-1)a$ **B.** $a_1 + (n-1)d$

C. $a_1 - (n+1)d$ **D.** $a_1 + (n+1)d$

iv. An _____ is a mathematical statement that shows that two expressions are not equal; one expression may be less than or greater than the other.

A. equation **B.** expression

C. polynomial **D.** inequality

v. x^0 = _____

A. x **B.** I

C. 0 **D.** I

2. Solve the following by applying the laws of indices:

a. $4^5 \times 3^5$	**b.** $a^6 \times b^6$
c. $5^2 \times 12^2$	**d.** $(7a)^3 \times (8b)^3$

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3. Multiply the following.

a. $x^2 + xy + y^2$ and $x^2 + y$

b. $5m^2 - 2mn + 3n^2$ and $mn + 1$

c. $x^4 + x^3 - 1$ and $x^4 - x^2 + 1$

d. $ax^2 + bx + c$ and $px^2 + qx + r$

e. $a^2 + b^2 + c^2 - ab - bc - ca$ and $a + b + c$

4. Find the product

a. $(2r + 3)(7r + 7)$

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

c. $(7n + 5)(4n + 6)$

d. $(5x + 8)(6x + 3)$

e. $(a - 7)(5x^2 - 3x - 5)$

f. $(6x - 4)(7x^2 + x - 4)$

g. $(3n - 2)(3n^2 - 8n - 5)$

h. $(5k - 5)(k^2 - 4k - 5)$

5. Divide

a. $-7a^3$ by $14a^2$

b. $24x^2y^3$ by $8y^2$

c. $15a^4b$ by $-5a^3b$

d. $-24x^4d^3$ by $-2x^2d^5$

e. $63a^4b^5c^6$ by $-9a^2b^4c^3$

f. $8x - 10y + 9a^2b^4c^3$

g. $15a^3b^4 - 10a^4b^3 - 25a^3b^6$ by $-5a^3b^2$

h. $-14x^6y^3 - 21x^4y^5 + 7x^5y^4$ by $7x^2y^2$

i. $a^2 + 7a + 12$ by $a + 4$

j. $x^2 + 3x - 54$ by $x - 6$

k. $12x^2 + 7xy - 12y^2$ by $3x + 4y$

l. $x^6 - 8$ by $x^2 - 2$

6. Find the n^{th} term for each of these sequences, then find the value of term 20.

a. 1, 3, 5, 7, 9, 11	**b.** 3, 6, 9, 12, 15, 18
c. 1, 4, 7, 10, 13, 16	**d.** 7, 11, 15, 19, 23, 27
e. 4, 7, 10, 13, 16, 19	**f.** 4, 14, 24, 34, 44, 54

7.

a. Find which term in the sequence $3n + 1$ has the value 76.

b. Find which term in the sequence $2n + 5$ has the value 31.

c. Find which term in the sequence $4n - 2$ has the value 82.

8.

a. Is 37 a term in the sequence $4n - 1$?

b. Is 71 a term in the sequence $2n + 3$?

c. Is 60 a term in the sequence $5n + 4$?

d. Is 40 a term in the sequence $3n + 5$?

e. Which is the first term greater than 100 in the sequence $6n - 5$?

9. The price of a toy bear is Rs $(a + 5)$. If Haris buys $(a + 6)$ bears, how much money will he have to spend?

10. Fazil sells $25x^2 + 5x + 5$ flowers in one day. If he sells the same number of flowers each day for Rs $5x$ each, how much money will he have at the end of 5 days?

11. Kanwal is painting an area of her house. By the end of the day, she had painted $2x$ – I metres by $x + 2$ metres rectangular area. How much area has she painted?

12. The parking space outside a tower measures $2x$ – I metres by $x + 2$ metres. What is the cost of cleaning the parking area if the cleaner has to be paid Rs 50 per m^2?

Unit 6

Algebraic Expressions: Expansion and Factorisation

Review Worksheet

1. Choose the correct options.

i. The square of the difference of a and b is _____.

A. $a^2 + 2ab + b^2$ **B.** $a^2 - 2ab + b^2$

C. $a^2 - b^2$ **D.** $a^2 + 2ab - b^2$

ii. The number 298 can be expressed as _____.

A. 200 – 98 **B.** 300 + 2

C. 290 – 8 **D.** 300 – 2

iii. The cube of the sum of a and b is _____.

A. $a^3 + 3a^2b + 3ab^2 + b^3$ **B.** $a^3 - 3a^2b + 3ab^2 - b^3$

C. $a^3 - b^3$ **D.** $a^3 + b^3$

iv. The factors of $3x + 6xy$ are _____.

A. $2x$ and $1 + 3y$ **B.** $3y$ and $1 + 2x$

C. $3x$ and $1 + 2y$ **D.** $2x + 1$ and $1 + 6y$

v. The factorisation of $ax + ay + bx + by$ is _____.

A. $(a + x)(a + b)$ **B.** $(x + y)(a + b)$

C. $(x + y)(x + b)$ **D.** $(x + y)(a + y)$

2. Simplify the following.

a. $(3a - 2b)^2 + (3a - 4b)^2$

b. $(x + 5y)^2 - (3x - 8y)^2$

3. Find the value of the following by using algebraic identities.

a. $(196)^2$	**b.** $(302)^2$
c. $(2.03)^2$	**d.** $(4.8)^2$
e. 192×208	**f.** 303×297

4. Expand the following expressions.

a. $(2x + 4y)^3$

b. $(a - 5b)^3$

c. $(x^2 - y^2)^3$

5. Factorise the following expressions.

a. $6a^3bc^3 - 9a^2bc^2 + 18ab^2c$	**b.** $6x^2y^2 - 9x^2y + 3xy$
c. $8x^2 + 6x - 4x - 3$	**d.** $25p^2 + 40pq + 16q^2$
e. $16a^2 - 8a + 1$	**f.** $m^2 - 2 + \frac{1}{m^2}$
g. $50p^2q^2 - 18q^4$	**h.** $(5a - 3b)^2 - (c - 7d)^2$

6. If $a - b = 4$ and $ab = 21$, find the value of $a^3 - b^3$.

7. Evaluate $x^3 - y^3$ when $x - y = 2$ and $x^2 + y^2 = 4$.

Unit 7

Linear Equations and Linear Inequalities

Review Worksheet

1. Choose the correct answer.

i. The solution point of the system of linear equations which intersect each other as origin is _____

A. $(x, 0)$ **B.** (x, y)

C. $(0, y)$ **D.** $(0, 0)$

ii. Number of solution point of two parallel simultaneous linear equation is _____.

A. one **B.** two

C. infinite **D.** no solutions

iii. A linear equation in two variables always represents a _____.

A. straight line **B.** triangle

C. quadrilateral **D.** curve

iv. The ordered pair $(-2, -\frac{1}{2})$ is the solution of _____

A. $-x - 2y = 0$ **B.** $-x + 4y = 0$

C. $x + 4y = 4$ **D.** $-2x - \frac{y}{2} = 0$

v. The point (-2,3) is the solution of _____.

A. $2x + 3y = 0$ **B.** $2x - 3y = 0$

C. $3x - 2y = 0$ **D.** $3x + 2y = 0$

2. Solve the following simultaneous equations using elimination method:

a. $7x + 3y = 25, \quad -2x + y = 4$

b. $5x - y = 7, \quad 2x + y = 7$

c. $2x - y = 2, \quad 5x + y = -9$

d. $4x + 4y = -4, \quad x + 7y = -19$

e. $3x - y = 7, \quad \frac{1}{2}x + y = 7$

f. $4a - 3b = 10, \quad 2a + b = 10$

3. Solve the following simultaneous equations using substitution method:

a. $5x - 2y = 8, \quad 3x - 2y = 4$

b. $5b + 14a = 31, \quad 2a = 3b - 29$

c. $2a = 3b + 1.5, \quad 2a - b = 8.5$

d. $x = 3 + y, \quad 5x = 33 - y$

e. $2z + x = 15, \quad 2z + 3x = 9$

f. $5m = 7n + 5, \quad m = 2n - 2$

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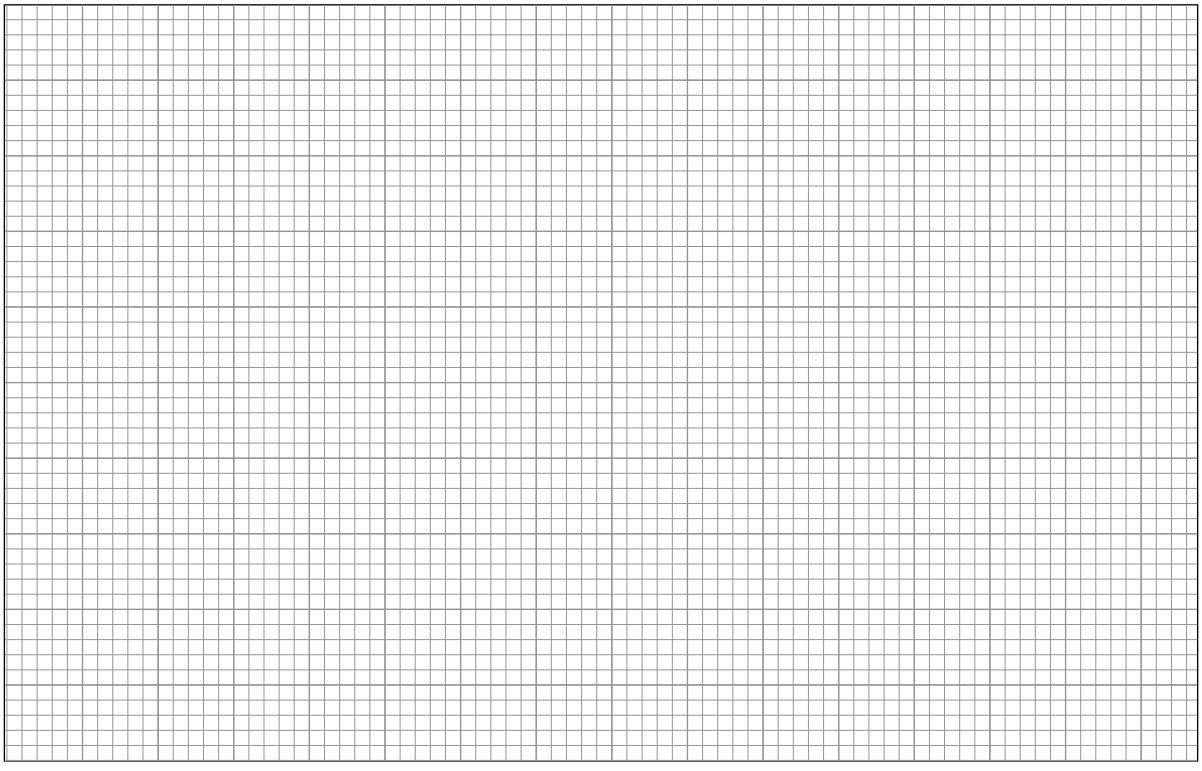
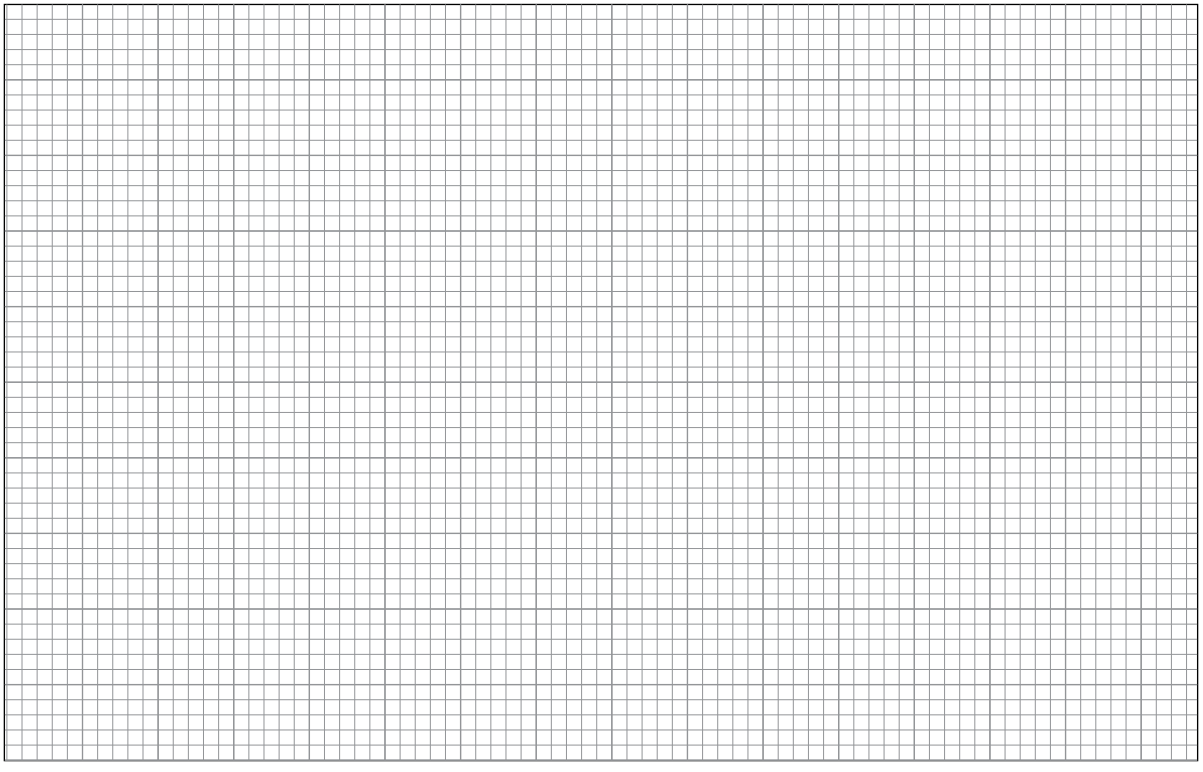
4. Find graphical solution of the following equations

a. $5x - 4y = 8;\ x = y - 4$



b. $x + 2y = -32;\ \ 2y + x = -4$



5. Solve the following inequalities and show the solution on graph.

a. $4 - 2m > 7 - 3m$

b. $3p - 5 > 4p + 7$

c. $6(x + 3), 8x + 18$

d. $\frac{1}{5}(4m + 10) < \frac{4}{5}m + 2$

6. The ages of two sisters, Rehana and Sonia, add up to 20. The difference between their ages is 8 years. What are their ages?

7. Amna and Anita went to the market to buy stationery. Amna bought 3 pencils and 2 erasers and paid Rs 5. Anita bought 7 pencils and 2 erasers and paid Rs 9. Find the cost of each pencil and each eraser.

8. Ahmed and Bilal are comparing the mangoes they each have in their baskets. Bilal has fewer mangoes than Ahmed. If Ahmed decides to give 20 mangoes to Bilal, they would have the same number of mangoes. If Bilal gives Ahmed 22 mangoes, then Ahmed would have twice as many mangoes as Bilal. How many mangoes do Ahmed and Bilal have in their baskets?

Unit 8

Practical Geometry

Review Worksheet

1. Choose the correct option.

i. If 3 angles of a quadrilateral on each equal to 75°, the 4th angle is _____

A. 150° **B.** 135°

C. 90° **D.** 75°

ii. In a rhombus opposite _____ are equal in measure.

A. side **B.** diagonal

C. angel **D.** both A & C

iii. A parallelogram having all sides equal is called _____.

A. square **B.** rhombus

C. rectangle **D.** both A & C

iv. Diagonals of a _____ bisect interior angles.

A. square **B.** rectangle

C. trapezium **D.** parallelogram

v. A quadrilateral having only one pair of opposite sides that are parallel is called _____.

A. kite **B.** parallelogram

C. trapezium **D.** rectangle

2. Construct the following triangles.

a. Triangle ABC when length of sides are 4.3 cm, 6cm, and 3.8 cm.

b. Triangle XYZ when XY = 5.6 cm, YZ = 4 cm, Y = 75°.

c. Triangle PQR when RQ is 5.2 cm, R = 30°, and Q = 120°.

d. Triangle DEF when hypotenuse and one side are 5 cm and 4.5 cm long respectively.

3. Three sides of a quadrilateral are of length 4.8 cm, 4.2 cm and 3.4 cm and the included angles are 120° and 45°. Construct the quadrilateral.

4. Construct a parallelogram when the two diagonals are 6.2 cm and 3.3 cm long, an angle between them is 45°.

5. Construct a kite when two sides are 5.2 cm and 3 cm long and length of one diagonal is 6.27 cm. What is the length of other diagonal? Measure the angle between the both diagonals.

6. Construct a rectangle of your own choice. Bisect its length and width. At what angle do the bisectors intersect each other?

7. Construct a triangle ABC such that.

a. AB = 4.5 cm, BC= 5 cm, AC=6 cm.

b. Draw right bisector of line segments AB and BC.

c. Draw bisector of angles A & C.

8. Two sides of a kite measure 3 cm and 4 cm while the long diagonal measures cm. Construct the kite.

9. Construct a trapezium PQRS such that PQ = 4.5 cm, PS = 4 cm, QR = 3.5 cm, and the distance between the parallel sides is 3.2 cm.

10. A rhombus has sides measuring 4 cm, with the diagonal equal to 7 cm. Construct the rhombus.

Unit 9

Congruence, Similarity, and Transformation

Review Worksheet

1. Choose the correct option.

i. If corresponding angles of two triangles are equal, the triangles are_____

A. similar **B.** congruent

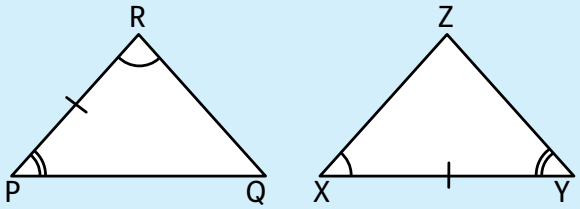
C. not similar **D.** equal

ii. If the measure of two sides and the included angle of a triangle are equal to the measures of corresponding sides and included angle of the other triangle, then the two triangles are _____.

A. similar **B.** congruent

C. not congruent **D.** not similar

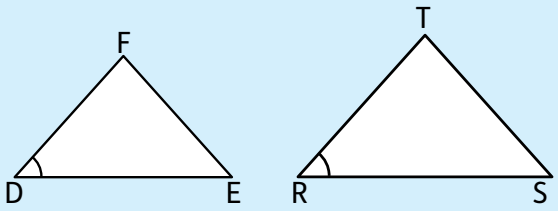
iii. The given triangles are _____.



A. similar **B.** equilateral

C. congruent **D.** none of the above

iv. In the given triangles, if $\frac{TR}{FD} = \frac{TS}{FE}$ and $m\angle R = m\angle D$, then _____ is incorrect.



A. $m\angle S = m\angle E$ **B.** $\frac{TR}{FD} = \frac{RS}{DE}$

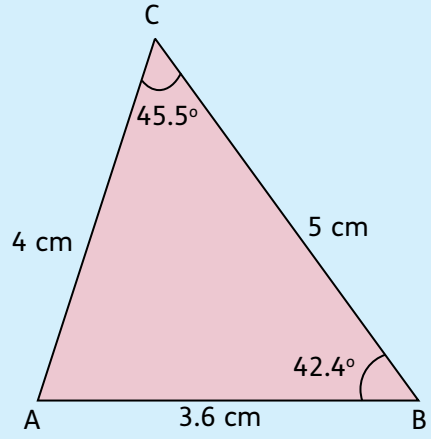
C. $m\angle T = m\angle F$ **D.** $m\angle S = m\angle F$

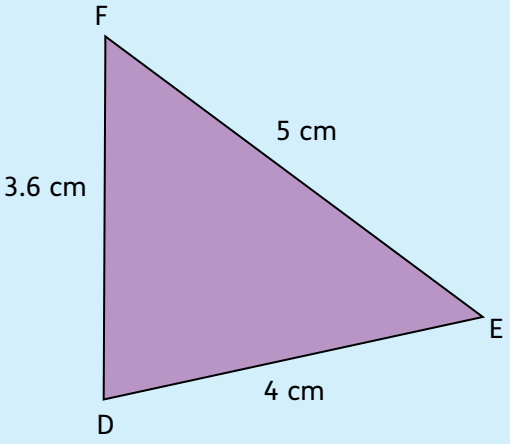
v. The _____ is the incorrect property of congruent triangles.

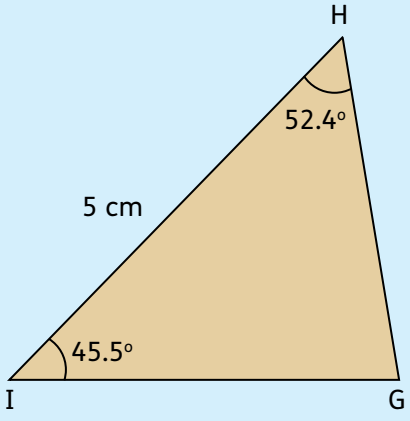
A. side – angle – side **B.** angle – angle – angle

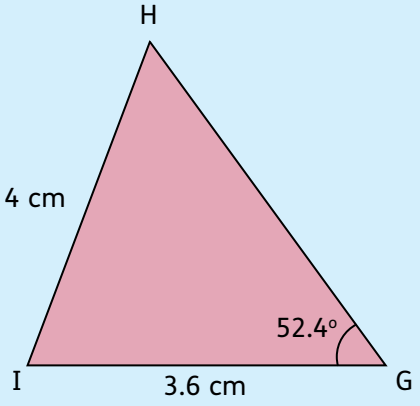
C. side – side – side **D.** right angle – hypotenuse – side

2. Which of the following figures are congruent to triangle ABC and why?

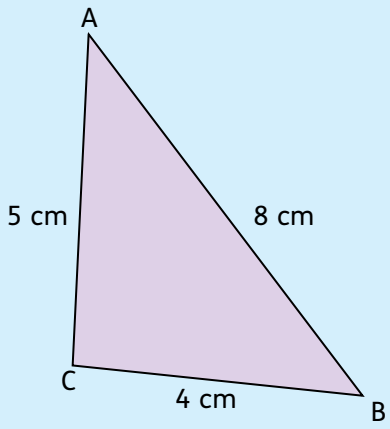


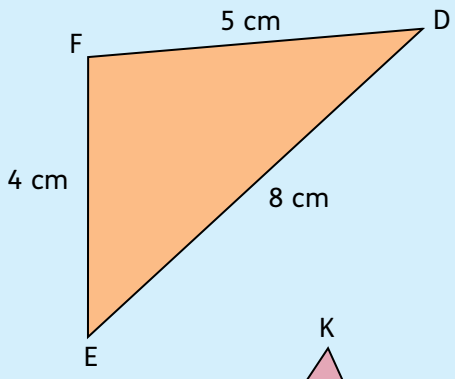


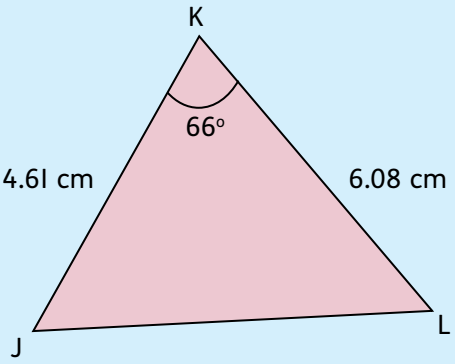


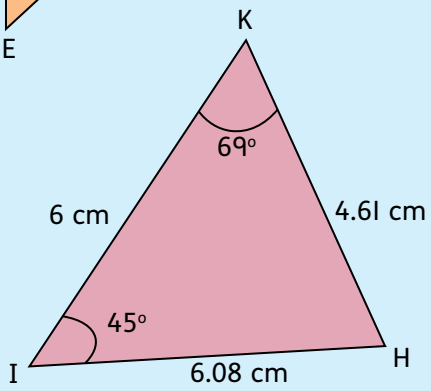


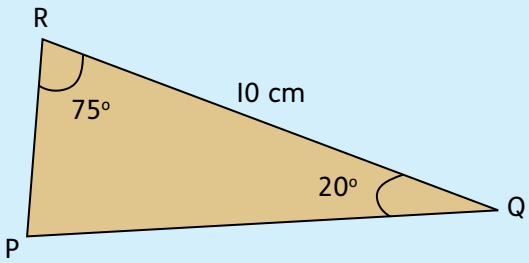
3. Identify the triangles which are congruent and give the reason why.

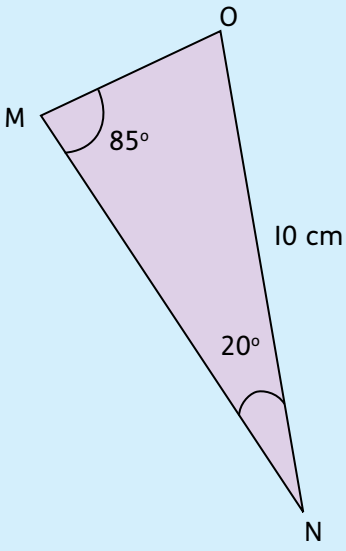


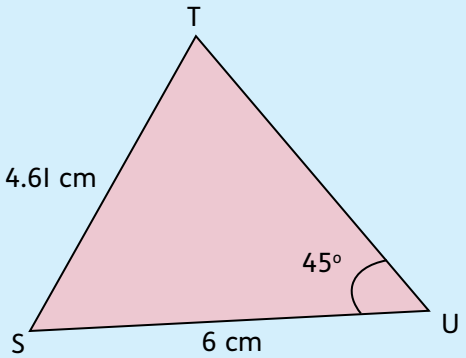






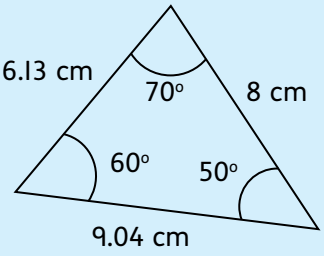




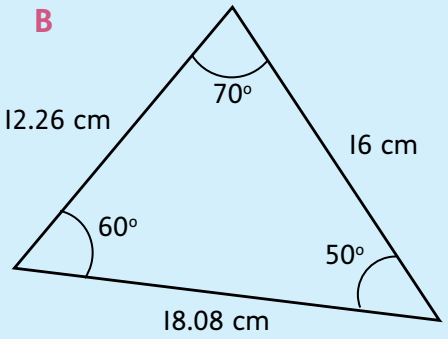


4. Which of the following triangles are similar? Give reasons.

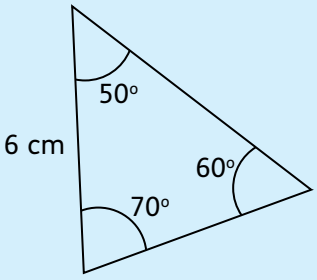
A



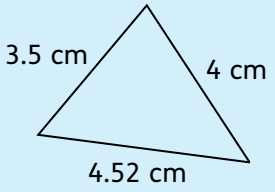
B



C



D



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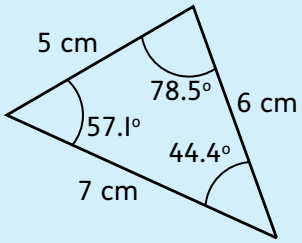
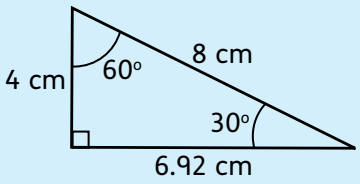
5. Which of the following figures are similar? (Figures are not drawn to scale)

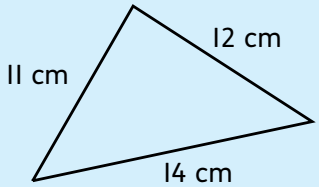
A



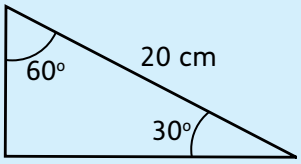
B



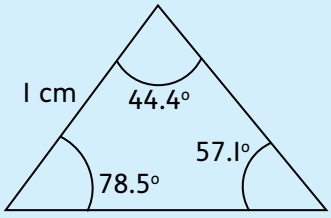
C



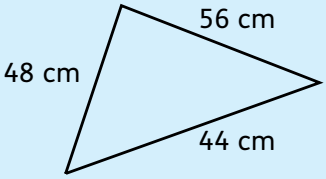
D



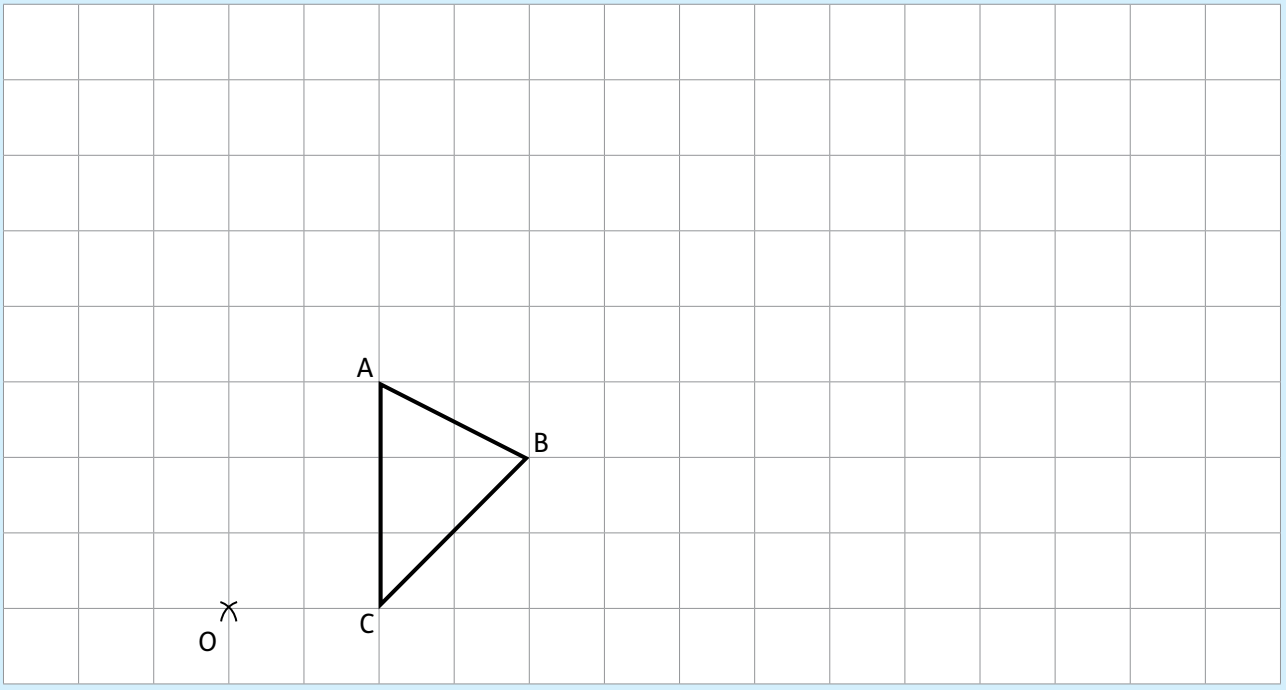
E



F

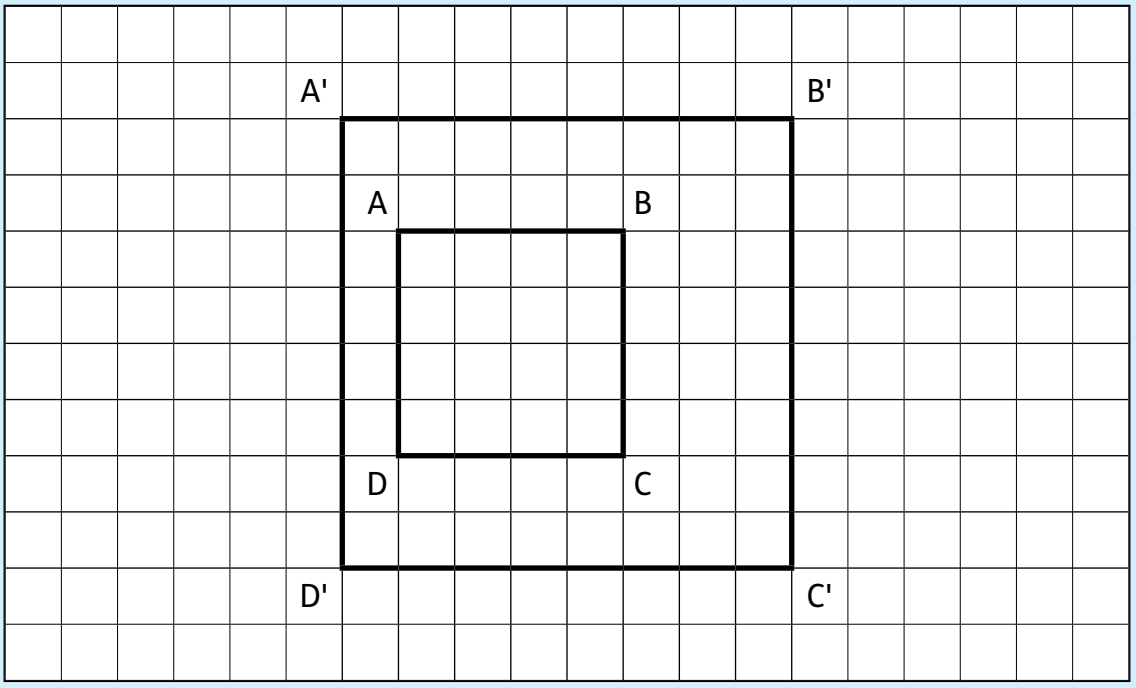


6. Enlarge the given triangle ABC with scale factor 2, using O as the centre of enlargement.

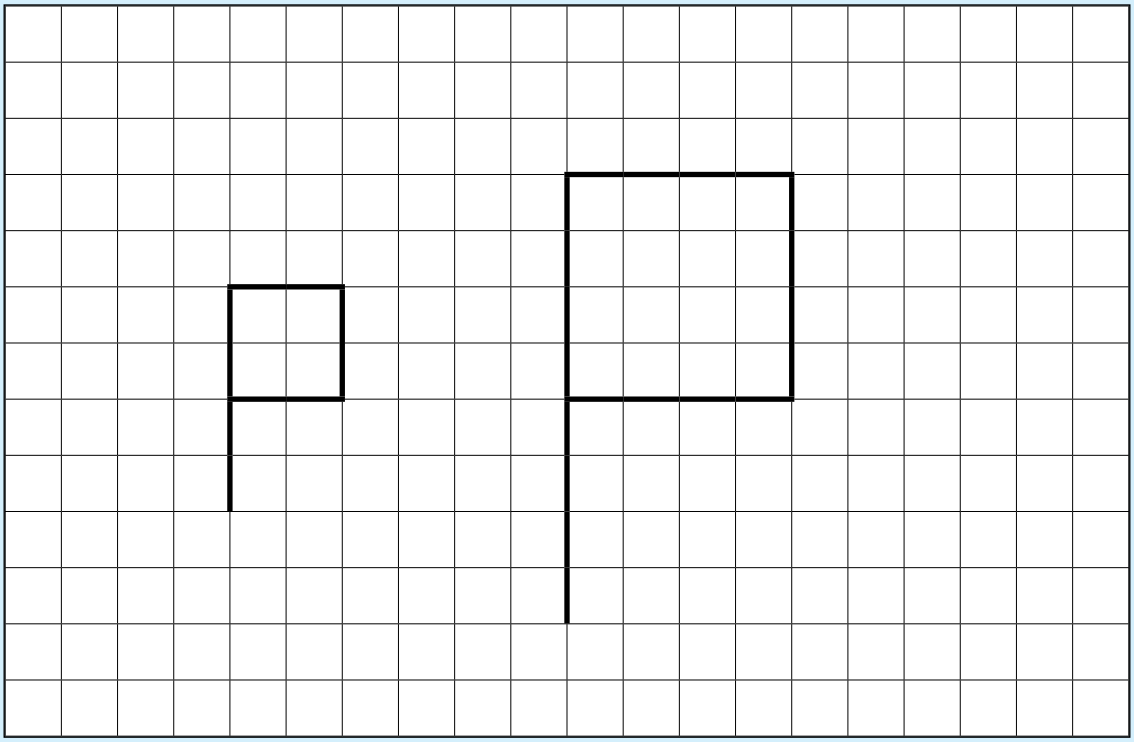


7. The following diagrams show two images. One of them is enlargement of the other. Find the centre of enlargement.

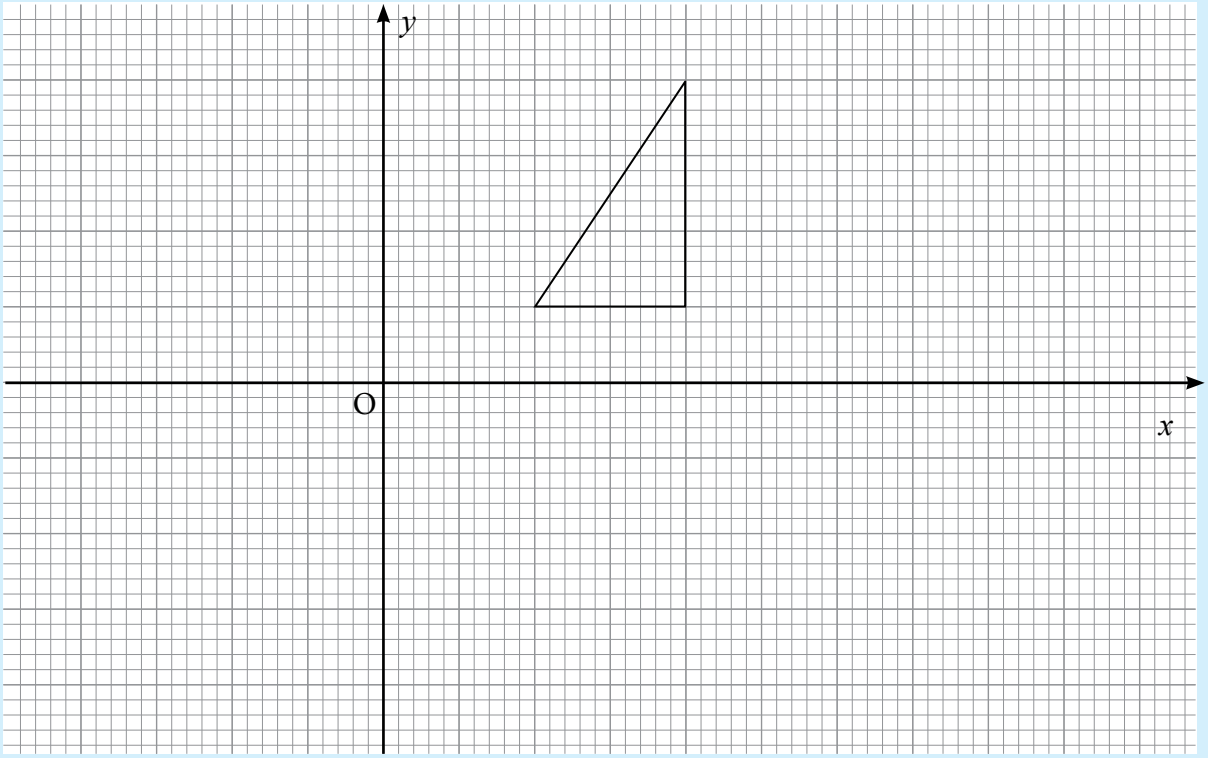
a.

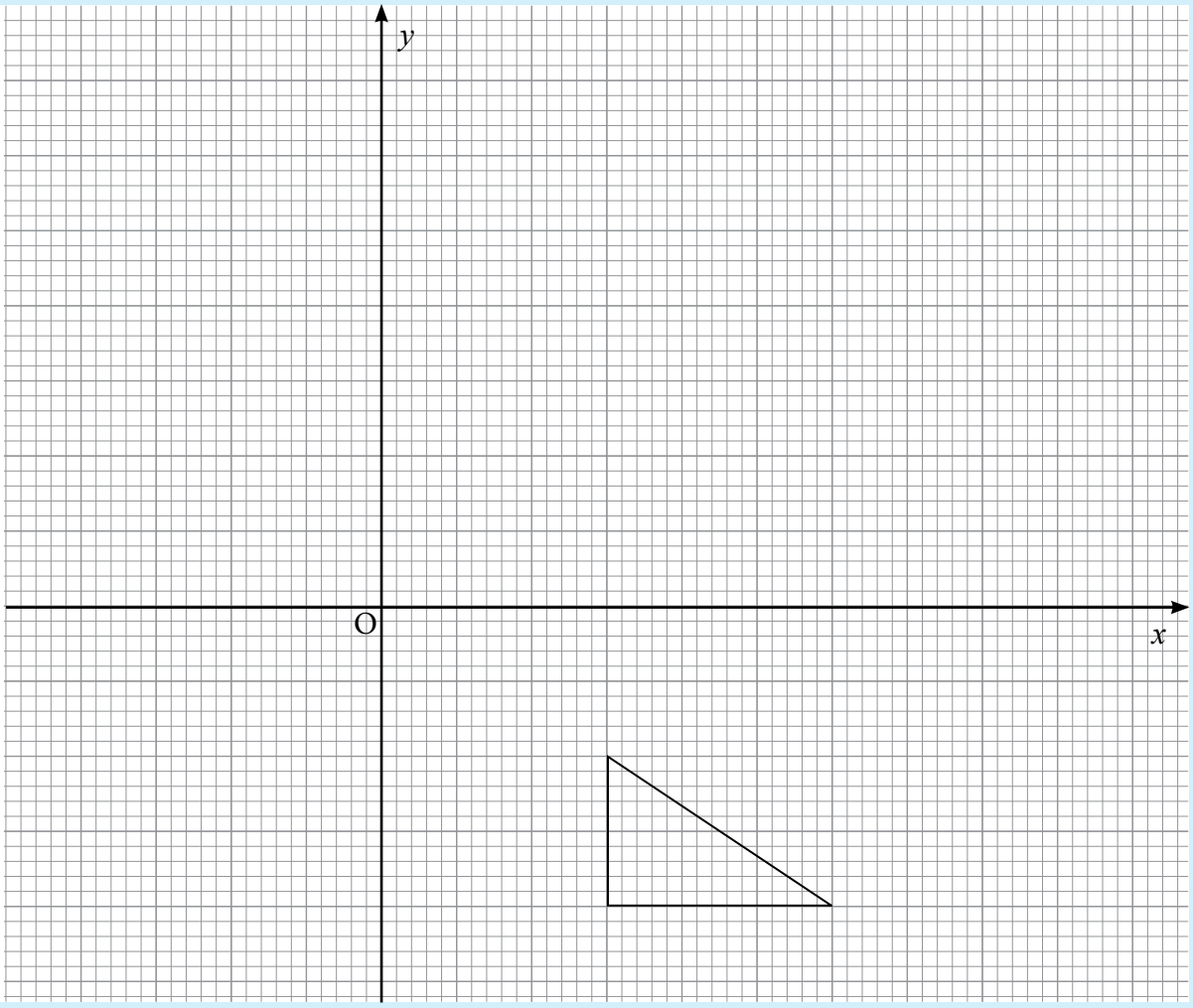


b.



8. Rotate the following shapes 90° clockwise about origin as centre of rotation.




y
O
x

Review Worksheet

1. Choose the correct option.

i. Angle in a semicircle is always _____ .

A. 100° **B.** 150°

C. 180° **D.** 90°

ii. The angle formed subtended by an arc at the center of a circle is called _____.

A. central angle **B.** complementary angle

C. corresponding angle **D.** adjacent angle

iii. For a right angled triangle, Pythagorus theorem states that _____.

A. $per^2 = hyp^2 + base^2$ **B.** $base^2 = hyp^2 + per^2$

C. $hyp^2 = per^2 + base^2$ **D.** $hyp^2 = per^2 - base^2$

iv. The surface area of a sphere with radius 5 cm is _____.

A. 324.16 cm^2 **B.** 314.16 cm^2

C. 214.16 cm^2 **D.** 315.16 cm^2

v. The volume of a cone of radius 2 cm, with height 4 cm is _____.

A. 16.5 cm^3 **B.** 16.4 cm^3

C. 16.76 cm^3 **D.** 16.1 cm^3

2. What is the length of the diagonal of a square with each side measuring 2 cm?

3. Samina wants to take her fishing rod with her on holiday. Her suitcase measures 50 cm by 30 cm and her fishing rod is 55 cm long. Can Samina fit her fishing rod in the suitcase?

4. A pyramid has a square base of length 15 m. If the volume of the pyramid is 3000 m_3, find its height.

5. Find the surface area of a square pyramid with a base area of 225 cm2 and a height of 20 cm.

6. A traffic cone is I5 cm tall and has a slant height of I8 cm. If the radius of the base is I0 cm, find the surface area of the cone. [Take $= \frac{22}{7}$]

7. What is the volume of a glass marble that has a radius of 3 cm? [Take $= \frac{22}{7}$]

8. Bilal buys an orange for lunch. The orange has a radius of 5 cm. Calculate the surface area and volume of the orange. [Take $= \frac{22}{7}$]

Unit 11

Data Handling

Review Worksheet

1. Choose the correct option.

i. In _____, data is represented by adjacent rectangles.?

A. circular chart **B.** polygon

C. bar chart **D.** histogram

ii. The difference between the largest and the smallest value is called _____.

A. mean **B.** mode

C. median **D.** range

iii. Mean of the squares of the deviation from mean is called _____.

A. mode **B.** standard deviation

C. variance **D.** mean

iv. When all the outcomes of a sample space have an equal chance of occurrence is called _____ events.

A. equally likely **B.** manually exclusive

C. exhaustive **D.** none

v. The possible outcome in the experiment of rolling a dice is/are _____.

A. 2 **B.** 4

C. 6 **D.** 8

2. For the following data, draw histogram and frequency Polygon.

X	5	10	15	20	25	30	35	40
F	2	4	6	8	10	7	5	3

3. Draw histogram using the following frequency distribution.

Marks	30–39	40–49	50–59	60–69	70–79
Frequency	3	8	11	5	4

4. Scores on a reading speed test were grouped into the following frequency distribution.

Score	24–27	27–30	30–33	33–36	36–39	39–42	42–45
Frequency	3	17	20	30	13	11	4

a. Draw a histogram. **b.** Draw a frequency Polygon on the histogram.

5. Find range, variance, and standard deviation for the following set of 15 values.

10 20 11 9 15 13 12

19 15 14 12 18 20 16

6. A number is chosen randomly from the numbers 1, 2, 3, 3, 0.
Find the probability that the number is.

a. a perfect square.	**b.** a multiple of 5.
c. a prime number.	**d.** a perfect cube.
e. a composite.	**f.** an odd, but not prime.

7. If an ordinary dice is rolled once, determine the chance of

a. getting a 6.	**b.** not getting a 6.

8. The marker is randomly selected from a box containing 5 black, 4 blue and three red markers. Determine the probability that the marker is

a. black	**b.** blue
c. red	**d.** not blue
e. not red	**f.** neither blue nor red