MATHEMATICS

PRACTICAL GEOMETRY

In △RST, R = 5 cm, and ∠SRT = 45° and ∠RST = 45°. Which criterion can be used to construct △RST?@A.S.A. criterion@S.A.S. criterion@ S.S.S. criterion@ R.H.S. criterion@1000

Identify the criterion of construction of the equilateral triangle LMN given LM = 6 cm.@S.A.S. criterion@R.H.S. criterion@A.S.A. criterion@S.S.S. criterion@0001

The idea of equal alternate angles is used to construct which of the following?@A line parallel to a given line@A triangle@A square@Two triangles@1000

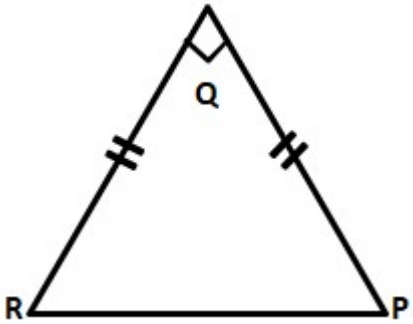
A Given AB = 3 cm, AC = 5 cm, and ∠B = 30°, △ABC cannot be uniquely constructed, with AC as base, why?@Two sides and included angle are given.@The other two angles are not given.@The vertex B cannot be uniquely located.@The vertex A coincides with the vertex C.@0010

A line panda point X not on it are given. Which of the following is used to draw a line parallel to p through X?@Equal corresponding angles.@Congruent triangles.@ Angle sum property of triangles.@ Pythagoras' theorem.@1000.

△ PQR is such that ∠P = ∠Q = ∠R = 60° which of the following is true?@△PQR is equilateral.@△PQR is acute angled.@Both [a] and [b]@Neither [a] nor [b]@0010

Which vertex of △ABC is right angled if <n style = "text-decoration:overline">AB</n> = 8 cm, <n style = "text-decoration:overline">ACB</n>= 6 cm,and <n style = "text-decoration:overline">BC</n>= 10 cm,?@∠C@ ∠A@∠B@A or C@1000

8 An isosceles triangle is constructed as shown in the figure.

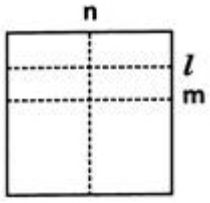


Which of the given statements is incorrect?

@<n style = "text-decoration: over-line">PR</n>is the hypotenuse of △PQR.@△PQR is an equilateral triangle.@△PQR is a right angled triangle.@If right angled △PQR has its equal angles measuring 45° each@0100

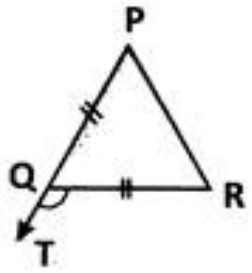
△PQR is constructed with all its angles measuring 60° each. Which of the following is correct?@△PQR is an equilateral triangle.@△PQR is isosceles triangle.@△PQR is a scalene triangle.@△PQR is a right angled triangle.@1000

How many perpendicular lines can be drawn to a line from a point not on it?@1@2@0@Infinite@1000
Identify the false statement.@A triangle with three equal sides is called an equilateral triangle.@A triangle with a right angle is called a right angled triangle.@ A triangle with two equal sides is called a scalene triangle.@ A right angled triangle has two acute angles and a right angle.@0010
△PQR is constructed such that PQ = 5 cm, PR = 5 cm and ∠RPQ = 50° Identify the type of triangle constructed.@An isosceles triangle@ An acute angled triangle@ An obtuse angled triangle@ Both [a] and [b]@0001
Which of the following is NOT constructed using a ruler and a set square?@A perpendicular to a line from a point not on it.@A perpendicular bisector of a line segment.@A perpendicular to a line at a point on the line.@ A line parallel to a given line through a given point.@0100
Study the steps of construction given.
Step 1: Draw a ray OA.
Step 2: With O as centre and any convenient radius draw an arc MN to cut OA at M.
Step 3: With M as centre and the same radius draw an arc to cut MN at P.
Step 4: With P as centre and the same radius, draw an arc to cut MN at Q.
Step 5: Draw OQ and produce it to D. An angle AOD is constructed.
What is the measure of ∠AOD?
@60°@30°@120°@45°@0010
In △XYZ, x, y and z denote the three sides. Which of the following is incorrect'?
@ x – y > z@x + z > y@x – y < z@x + y > z@1000
In which of the following cases can a triangle be constructed?@Measures of three sides are given.@Measures of two sides and an included angle are given.@Measures of two angles and the side between them are given.@ All the above.@0001
Based on the sides of a triangle, which of the following is a classification of triangles?@A right angled triangle@ An acute angled triangle@An obtuse angled triangle@An isosceles triangle@0001
Which of the following is used to draw a line parallel to a given line?@ A protractor@A set square@A ruler@A ruler and compasses@0001
19 Direction: David folds a sheet of paper.
The dotted lines as shown in the figure are
the creases formed, which are named as l, m and n.



What can you say about lines I and n?
@l // n@l ⊥ n@I is the same line as n@Neither [a] nor [b]@0100

A Choose the correct option in which a triangle CANNOT be constructed with the given lengths of sides.@3 cm, 4 cm, 5 cm@7 cm, 6 cm, 5 cm@10 cm, 7 cm, 2 cm@ 12 cm, 8 cm, 6 cm@0010
Identify the true statement.@A triangle with 3 equal sides is isosceles.@A triangle with a 110° angle is right angled.@A triangle with 3 acute angles is acute angled.@A triangle with 2 equal sides is equilateral.@0010
Which of the following statements is incorrect?@The sum of angles in a triangle is 2 right angles.@The exterior angle of a triangle is equal to the interior angle of the triangle.@The hypotenuse is the longest side of a right angled triangle.@All the above.@0100
A triangular sign board is isosceles. If the unequal side is 7 cm and one of the equal sides is 6 cm, what is the measure of the third side?@5 cm@6 cm@7 cm@ Either [a] or [c]@0100?
24 In the given figure, find the measure of
∠ROT, if PQ = QR and ∠QPR = 60°.

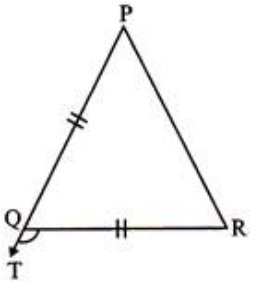


@60°@140°@120°@100°@0010
Which among the following is used to construct a triangle?@The lengths of the three sides.@The perimeter of the triangle.@The measures of three angles.@The names of three vertices.@1000
How many lines can draw from a given point.@1@2@Infinite@None of these @0010
How many parallel lines can draw from a outside point of a given line?@1@2@ Infinite@ None of these@1000
Which among the following is used to construct a triangle?@The lengths of the three sides.@The perimeter of the triangle.@The measures of three angles.@The names of three vertices.@1000
How many parallel lines can be drawn passing through a point, not on the given line?@2@1@3@0@0100
In which of the following cases is the construction of a triangle not possible?@ Measures of 3 sides are given.@Measures of 2 sides and an included angle are given.@Measures of 2 angles and a side are given.@ Measures of 3 angles are given.@0001

dentify the true statement.@A triangle with 3 equal sides is isosceles.@A triangle with a 110o angle is right angled.@A triangle with 3 acute angles is acute angled.@ A triangle with 2 equal sides is equilateral.@0010
A Choose the correct option in which a triangle CANNOT be constructed with the given lengths of sides.@3 cm, 4 cm, 5 cm@7 cm, 6 cm, 5 cm@10 cm, 7 cm, 2 cm@ 12 cm, 8 cm, 6 cm@0010
Which is the longest side in the triangle ABC right angled at B?@BC@AC@AB@ None of these@0100
△PQR is a triangle right-angled at P. If PQ = 3 cm and PR = 4 cm, find QR.@3 cm@ 7 cm@5 cm@8 cm@0010
Which is the longest side in the triangle PQR right angled at P?@PR@ PQ@QR@ None of these@0010
The sum of the lengths of any two sides of a triangle is _____ the third side of the triangle.@less than@ doubled@greater than@half@0010
A/an _____ connect a vertex of a triangle to the mid-point of the opposite side.@ altitude@vertex@median@None of these@0010
In the Pythagoras property, the triangle must be _____@acute-angled@ obtuse-angled@right-angled@None of these@0010
Which is the longest side of a right triangle?@Hypotenuse@Base@ Perpendicular@None of these@1000
A triangle in which all three sides are of equal lengths is called _____.@ Equilateral@Scalene@Isosceles@None of these@1000
A triangle can be drawn if the hypotenuse and a _____ in the case of a right-angled triangle.@base@hypotenuse@leg@None of these@0010
Sum of the lengths of any two sides of a triangle is greater than the length of the ____.@ first side@second side@third side@ none of these@0010
A triangle can be drawn if ____ angles and one side given.@2@3@4@None of these@1000
45he exterior angle of a triangle is _____ in measure to the sum of interior opposite angles.@equal@unequal@different@None of these@1000
△ABC is right-angled at C. If AC = 5 cm and BC = 12 cm find the length of AB. @17 cm@7 cm@13 cm@None of these@0010
Identify the true statement.@A triangle with 3 equal sides is isosceles.@A triangle with a 95◦angle can be right angled.@triangle with 3 acute angles is acuteangled.@A triangle with 2 equal sides is equilateral.@0010
In which of the following cases is the construction of a triangle not possible?@ Measures of 3 sides are given.@Measures of 2 sides and an included angle are given.@Measures of 2 angles and a side are given.@Measures of 3 angles are given. @0001
Choose the correct option in which a triangle CANNOT be constructed with the given lengths of sides.@3 cm, 13 cm, 15 cm@6 cm, 6 cm, 6 cm@9 cm, 6 cm, 2 cm @13 cm, 6 cm, 8 cm@0010

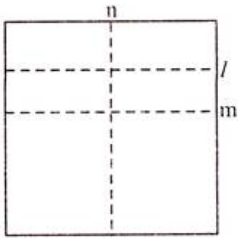
Which among the following is sufficient to construct a triangle?@The lengths of the three sides@The perimeter of the triangle@The measures of three angles@The names of three vertices.@1000

51 In the given figure, find the measure of ∠RQT (exterior ∠le), if PQ=QR and∠QPR=50^0



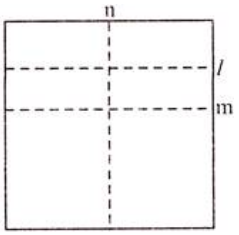
@80^0@135^0@100^0@110^0@0010

52 Direction: Meera folds a sheet of paper. The dotted lines as shown in the figure are the creases formed, which are named as 1, m and n. Which of the following is true?



@1//m@1//n@n//m@Either B or C @1000

53 Direction: Meera folds a sheet of paper. The dotted lines as shown in the figure are the creases formed, which are named as 1, m and n. What can you say about lines 1 and n?



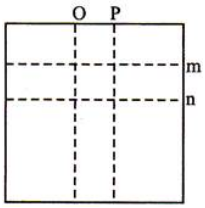
@1//m@1⊥n @1 is the same line as n@Neither (A) nor (B)@0100

A triangular sign board on highway from Agartala to Dibrugarh is isosceles. If the unequal side is 8 cm and one of the equal sides is 9 cm, what is the measure of the third side?@9 cm@8 cm@17/2 cm@Either@1000

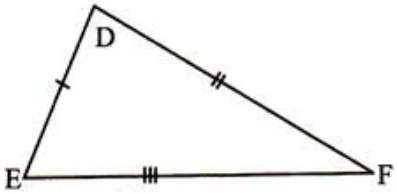
Which of the following is used to draw a line parallel to a given line?@ A protractor@A set square@A ruler@A ruler and compass@0001

Which of the following statements is incorrect?@ The sum of angles in a triangle is 2 right angles.@The exterior angle of a triangle is equal to the interior angle of the triangle.@ The hypotenuse is the longest side of a right angled triangle.@All the above@0100
How many parallel lines can be drawn passing through a point not on the given line?@2@1@3@0@0100
In which of the following cases can a triangle be constructed?@Measures of three sides are given@Measures of two sides and an included angle are given.@Measures of two angles and the side between them are given.@All the above@0001
Which type of triangle is in the classification based on angles only?@An equilateral triangle@A scalene triangle@A right angled triangle@An isosceles triangle@0010
The measurements of △DEF are EF=8.4 cm, ∠E=100∘ and ∠F=82∘ Which of the following is correct?@△ DEF can be constructed.@△ DEF is an obtuse angled triangle.@△ le cannot be constructed@△ DEF is an acute angled triangle.@0010
Based on the sides of a triangle, which of the following is a classification of triangles?@A right angled triangle@An acute angled triangle@An obtuse angled triangle@An isosceles triangle@0001
Which of the following can be used to construct a 30∘ angle?@Construct a 60∘ angle using compasses and bisect it.@Construct a perpendicular bisector of a line segment.@Construct the bisector of any angle.@Construct an angle congruent to any given angle.@1000
Rohan thinks he knows how to bisect angles and follows following steps to construct 45∘angle.
Step 1: Construct an angle of 90∘.
Step 2: Bisect the 90∘ angle.
Step 3: Bisect one of the angles obtained in step 2.
Which steps is not required to construct a 45∘angle?
@Step 1@Step 2@Step 3@Step 2 and 3@0010
In △ XYZ,a, b, c denote the three sides, which of the following is incorrect?@ a−b>c@a+c>b@a−b<c@a+b>c@1000
Which of the following is NOT constructed using a ruler and a set square?@A perpendicular to a line from a point not on it. @A perpendicular bisector of a line segment.@A perpendicular to a line at a point on the line.@A line parallel to a given line through a given point.@0100
Given PQ=6 cm, QR=55 cm and RP=55 cm, what type of a triangle can be constructed?@An acute angled triangle.@An obtuse angled triangle@An equilateral triangle@A right angle triangle@1000
Identify the false statement.@A triangle with three equal sides is called an equilateral triangle.@A triangle with a right angle is called a right-angled triangle.@ A triangle with two equal sides is called a scalene triangle.@A right angled triangle has two acute angles and a right angle.@0010
Identify the condition to be checked before constructing a triangle.@Sum of the three angles is180^0.@The sum of any two of the sides is greater than the third

side.@The difference of any two sides in lesser than the third side.@ All the above.@0001
Identify the condition when a triangle can be constructed?@One side and two acute angles are given.@A side and an acute angle are given@Two obtuse angles are given. @All given sides are equal.@1000
How many perpendicular lines can be drawn to a line from a point not on it?@1@2@0@Infinite@A
△PQR is constructed with all its angles measuring 60∘ each. Which, of the following is correct?@△PQRis an equilateral triangle.@△PQR is isosceles triangle.@△PQR is a scalene triangle.@△PQR is a right angled triangle.@1000
72 Rajkumari folds a sheet of
paper in the following way:
Which of the following is false?

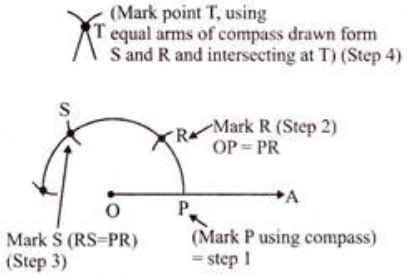


@Line O|| line of P@Line m⊥ line n@With respect to lines O & P, line 'n' is a transversal@With respect to lines m and n, line 'O' is transversal@0100
73 A triangle is constructed as shown in the figure.
Which of the following is not correct about △DEF?



@△DEF has all its sides equal.@△DEF is an acute angled triangle.@△DEF is a scalene triangle.@△DEF is not an equilateral triangle.@1000
In △ABC <n style = "text-decoration: over-line">AB</n><n style = "text-decoration: over-line">BC</n><n style = "text-decoration: over-line">CA</n> which of the following is the smallest angle?@∠A@∠B@∠C@∠A=∠B=∠C@0100
An isosceles triangle is constructed as shown in the figure. Which of the given statements in incorrect?@<n style = "text-decoration:overline">PR</n>
is the hypotenuse of △PQR.@△PQR is an equilateral triangle.@△PQR is a right-angled triangle.@In right angled △PQR, its equal angles measure as 90^0,45^0,45^0.@0100

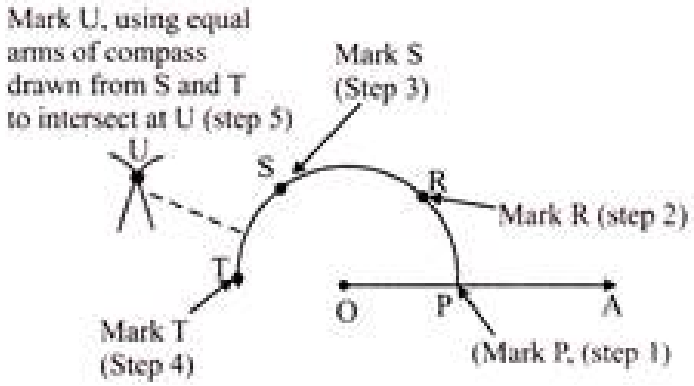
76 Identify the angle that gets constructed: after step 4 and by joining the points O and T.



@30^0@45^0@60^0@90^0@0001

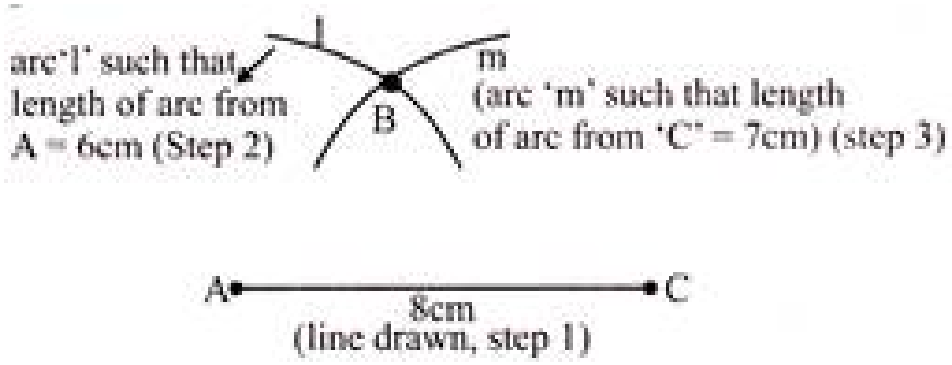
In the above figure, identify the angle constructed after step 3 and by joining the points O and S.@80^{0}C@75^0@120^0@135^0@0010

78 Identify the angle that is constructed after step 5 in the figure below and by joining the points O and U (where $PR = RS = ST$

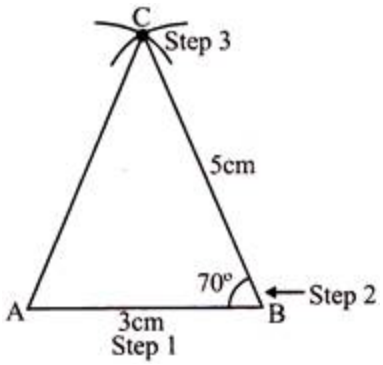


@40^0@140^0@135^0@150^0@0001

79 Given AB=6 cm BC=7cm CA=8 cm,which of are the following are right steps for constructing △ABC.



@ Step 1 is correct step 2 & 3 are wrong@Step 2 & 3 are right step 1 is wrong@All steps 1 to 3 are right@None of the above.@0010
Which property has been used to construct the triangle in question 33?@RHS property@SSS property@SAS property@ASA property@0100
81 Given AB=3 cm, BC=5 cm $\angle C=70^0$,are the following steps to construct the $\triangle$lecorrectly shown?
Step 1: Draw AB=3 cm
Step 2: Draw angle =70^0 from B using protractor
Step 3: Cut off length = 5 cm to get C



@Step 1 is correct@Step 2 is correct@All steps are correct@Step 1 should be to draw BC = 5 cm@0001
Which property is the correct one to construct triangle in question 35.@SSS Property@SAS property@RHS property@AAA property@0100
A line p and a point X not on it are given. Which of the following can be used to draw a line parallel to p through X?@Equal corresponding angles@Congruent triangles.@Heron's formula@Pythagoras' theorem.@1000
Given AB=3 cm, AC=5.2 cm,and$\angle B=35^0$. $\angle$ABC cannot be uniquely constructed, with AC as base, why?@Two sides and included angle are given.@The other two angles are not given.@The vertex B cannot be uniquely located.@The vertex A coincides with the vertex C.@0010
A triangle $\triangle$PQR with $\angle Q=90^0$, QR=4 cm and PR = 5 cm is constructed. What would be the measure of PQ?@2 cm@6 cm@7 cm@3 cm@0001
The idea of equal alternate angles in used to construct which of the following? @A line parallel to a given line @A triangle@A square@Two triangles@A
In $\triangle$ABC,if AB=7 cm, $\angle A=40^0$and $\angle B=70^0$,which criterion can be used to construct this triangle?@ASA@SSS@SAS@RHS@A
89 Which one of the following is true for the given triangle?

@∠3=∠1+∠2@∠1=∠3+∠2@∠2=∠1+∠3@Both (A) and (B)@1000
The __ criterion is used to construct a triangle when the lengths of the three sides are given.@SAS@SSS@RHS@ASA@0100
A triangle can be constructed by taking its sides as@1.8 cm, 2.6 cm, 4.4 cm@2 cm, 3 cm, 4 cm@2.4 cm, 2.4 cm, 6.4 cm@3.2 cm, 2.3 cm, 5.5 cm@0100
A triangle can be constructed by taking two of its angles as@110^0, 40^0@70^0,115^0@135^0,45^0@90^0,90^0@1000
Which of the following sets of triangles could be the lengths of the sides of a right-angled triangle?@3 cm, 4 cm, 6 cm@9 cm, 16 cm, 26 cm@1.5 cm, 3.6 cm, 3.9 cm@7 cm, 24 cm, 26 cm@0010
In which of the following cases, a unique triangle can be drawn?@AB=4 cm, BC=8 cmand CA=2 cm@BC=5.2 cm, ∠S=$90^0$and ∠C=110^0@XY=5 cm, ∠X=$45^0$and ∠Y=60^0@ An isosceles triangle with the length of each equal side 6.2 cm.@0010
Which of the following statements is INCORRECT?@If length of any two sides of a triangle are 7 cm and 10 cm, then length of its third side lies between 3 cm and 17 cm.@It is possible to construct a unique triangle if all its three angles are given.@ An angle of 7, 1°/2 can't be constructed using compasses and ruler.@None of these@0010
Which of the following steps is INCORRECT while constructing △XYZif it is given that XY=6cm,∠ZX_y=$30^0$and ∠XYZ=100^0
Step 1: Draw line XV of length 6 cm.
Step 2: At X, draw a ray XP making an angle of 30owith XY.
Step 3: At V, draw a ray YQ making an angle of 100o with YX.
Step 4: The point of intersection of the two rays XY and YQ is Z.
@Step 1@Step 2 and Step 4@Step 3@Step 4@0001
Which among the following is used to construct a triangle?@The lengths of the three sides.@The perimeter of the triangle.@The measures of three angles.@The names of three vertices.@1000
In the given figure, find the measure of∠ROT, if PQ=QR and ∠QPR=60^0.@60^0@ 140^0@120^0@100^0@0010
Arrange the given steps in CORRECT order, while constructing △PQRwhere PM⊥QSand it is given that QR=4.2 cm,∠Q=120^0 and PQ=3.5 cm.
Step 1. Now, extend RQ to S and with P as centre and with a sufficient radius, draw an arc, cutting SO at A and 8.
 Step 2. Along QX, set off QP=3.5 cm.
Step 3. Draw a line segment QR=4.2 cmand construct∠RQX=120^0.
Step 4. Joint PR.
Step 5. Joint PC, meeting RQ product at M. Then. PM⊥QS
Step 6. With A as centre and radius more than half AB, draw an arc. Now with B as centre and with the same radius draw another arc, cutting the

previous arc at C.@1 2192→2→3→4→5→6@4→1→2→3→5→6@2→4→3→1→5→6@@ 3→2→4→1→6→5@0001
State 'T' for true and 'F' for false.
(1) In a triangle, the measure of exterior angle is equal to the sum of the measure of interior opposite angles.
(2) The sum of the measures of the three angles of a triangle is 90o.
(3)A perpendicular is always at 90o to a given line or surface.
@(1)(2)(3)TTF@(1)(2)(3)TFF@(1)(2)(3)TFT@(1)(2)(3)FTF@0100
Which of the following steps is INCORRECT while constructing △LMA, right angled at M, given that LN=5 cmand MN=3 cm?
Step 1. Draw MN of length 3 cm.
Step 2. At M, draw MX1MN. (L should be somewhere on this perpendicular).
Step 3. With N as centre, draw an arc of radius 5 cm. (L must be on this arc, since it is at a distance of 5 cm from N).
Step 4. L has to be on the perpendicular line MX as well as on the arc drawn with centre N. Therefore, L is the meeting point of these two and ALMA/ is obtained.
@Only Step 4@Both Step 2 and Step 3@Only Step 2@None of these@0001

<n style = "text-decoration:overline">AB</n>