



MATHS

BOOKS - UNITED BOOK HOUSE

Similarity

Exercise

1. Multiple Choice Questions (MCQ) In $\triangle PQR$ and $\triangle XYZ$, If $\angle P = \angle Y = 40^\circ$, $PQ : XY = PR : YZ$ and $\angle Z = 65^\circ$ then $\angle Q =$

A. 65°

B. 75°

C. 60°

D. 40°

Answer:



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2. In $\triangle ABC$, a straight line parallel to BC intersects the sides AB and AC at P and Q

respectively. If $AP = 8\text{cm}$, $CQ = 9\text{cm}$ and $AQ = 2BP$, then $BP =$

A. 8cm .

B. 6cm .

C. 12cm .

D. none of these

Answer:



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3. In $\triangle PQR$, M and N are two points on PQ and PR such $MN \parallel QR$ and $PM = \frac{1}{2} QM$. If $QR = 4.5\text{cm}$. Then $MN =$

A. 3.5cm

B. 4cm

C. 4.5cm

D. 1.5cm

Answer:



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4. In $\triangle ABC$, a straight line parallel to BC intersects AB and AC at P and Q respectively. If $AB = 3PB$, then $PQ : BC =$

A. 2 : 3

B. 3 : 1

C. 1 : 3

D. 3 : 2

Answer:



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5. In $\triangle PQR$, a line parallel to QR meets PQ and PR at X and Y . If $PX = 4.8\text{cm.}$, $PY = 6.4\text{cm.}$ And $YR = 9.6\text{cm.}$ Then the length of PQ is

A. 4.6cm.

B. 8.4cm.

C. 12cm.

D. 14cm.

Answer:



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6. In $\triangle XYZ$ and $\triangle ABC$. If $XY/BC = YZ/AC = XZ/AB$, then

A. $\angle X = \angle A$

B. $\angle X = \angle B$

C. $\angle X = \angle C$

D. $\angle Y = \angle B$.

Answer:



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7. In a $\triangle PQR$, $\angle Q = 55^\circ$ and $\angle R = 35^\circ$. Find the ratio of angles subtended by side QR on circumcentre, incentre and orthocentre of the triangle.

A. 3 : 2 : 1

B. 3 : 2 : 5

C. 3 : 2 : 4

D. 4 : 3 : 2

Answer:



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8. If $\triangle ABC$ and $\triangle DEF$, $\angle A = \angle E$ and $\angle F = \angle B$ then

A. $BC : DF = AC : DE$

B. $AB : EF = AC : DE$

C. $BC : DF = AB : EF$

D. $EF : DE = BC : AC$

Answer:



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9. In $\triangle ABC$, D and E are two points on AB and AC such that $DE \parallel BC$ and $AD : BD = 3 : 2$, then $DE : BC =$

A. 5 : 3

B. 3 : 5

C. 3 : 4

D. 4 : 3

Answer:



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10. The angles of quadrilateral are in the ratio
 $3 : 5 : 9 : 13$. Then find the all four angles?

A.

B.

C.

D.

Answer:



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11. In $\triangle ABC$ and $\triangle DEF$, $AB = DE$ and $BC = EF$. Then one can infer that

$\triangle ABC \cong \triangle DEF$ when _____

A. $\angle BAC = \angle EDF$

B. $\angle ACB = \angle EDF$

C. $\angle ACB = \angle DFE$

D. $\angle ABC = \angle DEF$

Answer:



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12. The perimeters of two similar triangles $\triangle ABC$ and $\triangle PQR$ are 36 cm and 24 cm respectively. If $PQ = 10$ cm, then AB is ___

A. 15 cm

B. 12 cm

C. 14 cm

D. 26 cm

Answer:



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13. In $\triangle ABC$, two points D and E are taken on the lines AB and BC respectively in such a way that AC is parallel to DE. Then $\triangle ABC$ and $\triangle DBE$ are ___

A. similar only if D lies outside the line segment AB

B. Congruent only if D lies outside the line Segment AB

C. always similar

D. always congruent

Answer:



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14. In a right angled

$\triangle ABC$, $\angle C = 90^\circ$, BN is

perpendicular to AC, AB = 6 cm, AC = 10 cm.

Then AN : NC is ___

A. 3 : 4

B. 9:16

C. 3 : 16

D. 1 : 4

Answer:



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15. A vertical stick 20 m long casts a shadow 10 m long on the ground. At the same time, a tower casts a shadow 50 m long on the ground, the height of the tower is ___

A. 100 m

B. 120 m

C. 25 m

D. 200 m

Answer:



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16. Sides of two similar triangles are in the ratio 4 : 9. Areas of these triangles are in the ratio ___

A. 2 : 3

B. 4 : 9

C. 81 : 16

D. 16 : 81

Answer:



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17. Two isosceles triangles have equal angles and their areas are in the ratio 16 : 25. The ratio of their corresponding heights is ___

A. 4 : 5

B. 5 : 4

C. 3 : 2

D. 5 : 7

Answer:



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18. The areas of two similar triangles are 9 cm^2 and 16 cm^2 respectively. The ratio of their corresponding sides is

A. 3 : 4

B. 4 : 3

C. 2 : 3

D. 4 : 5

Answer:



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19. If $\triangle ABC$ and $\triangle DEF$ are two triangles such that $AB/DE = BC/EF = CA/FD = 2/5$, then
Area ($\triangle ABC$) : Area ($\triangle DEF$) =

A. $\frac{2}{5}$

B. $\frac{5}{2}$

C. $\frac{4}{25}$

D. $\frac{25}{4}$

Answer:



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20. In $\triangle ABC$, a line XY parallel to BC cuts AB at X and AC at Y . If BY bisects $\angle XYC$, then ___

A. $BC = CY$

B. $BC = BY$

C. $BC \neq CY$

D. $BC \neq BY$

Answer:



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21. If $\triangle ABC$ and $\triangle DEF$ are similar such that $\angle A = 47^\circ$, $\angle E = 83^\circ$, then $\angle C =$

A. 50°

B. 60°

C. 70°

D. 80°

Answer:



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22. In a trapezium ABCD, $BC \parallel AD$ and $AD = 4$ cm.
the two diagonals AC and BD intersect at the

point O in such a way that $AO/OC = DO/OB =$

$1/2$. Calculate the length of BC.

A. 7 cm

B. 8 cm

C. 9 cm

D. 6 cm.

Answer:



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23. If $\triangle ABC \sim \triangle DEF$ such that $AB = 9.1$ cm and $DE = 6.5$ cm. If perimeter of $\triangle DEF$ is 25 cm, then the perimeter of $\triangle ABC$ is ____

A. 36 cm

B. 30 cm

C. 34 cm

D. 35 cm

Answer:



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24. Base of a triangle is 9 and height is 5. Base of another triangle is 10 and height is 6. Find the ratio of areas of these triangles.

A. 3 : 4

B. 1 : 3

C. 1 : 4

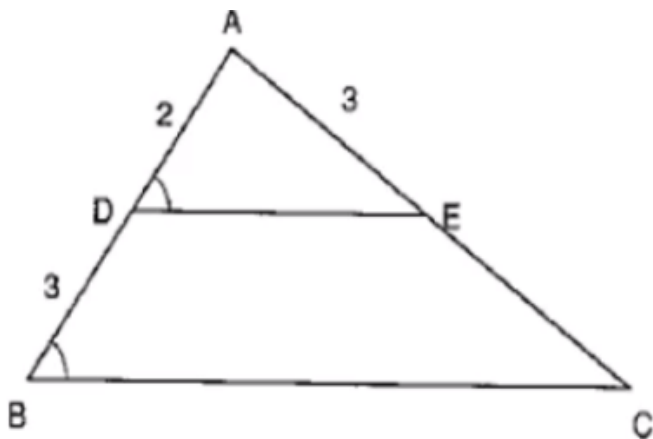
D. 2 : 3

Answer:



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25. In the adjacent fig if $\angle ADE = \angle ABC$,
then CE



- A. 2
- B. 5
- C. $9/2$
- D. 3

Answer:



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