MATHS

BOOKS - KAPLAN INC MATHS (ENGLISH)

PLANE GEOMETRY

Example

1. The length of $\overline{WZ}$ is $3a + 15$, and the length of $\overline{WX}$ is $7a + 5$. If Y is the midpoint of $\overline{XZ}$,

what is the length of $\overline{WY}$?
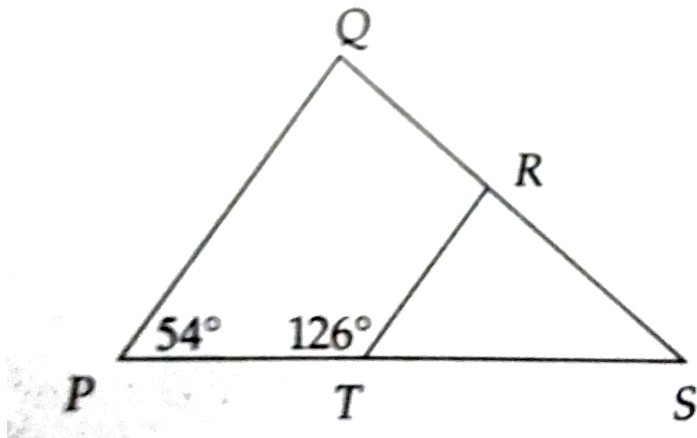

A. $5 + 4a$

B. $5 - 2a$

C. $25 + 4a$

D. $10 + 5a$

Answer: D

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2. $\overline{QR} = \overline{RS}$. If the area of $\triangle RST$ is $\dfrac{c}{2}$, what

is the area of $\triangle QSP$?
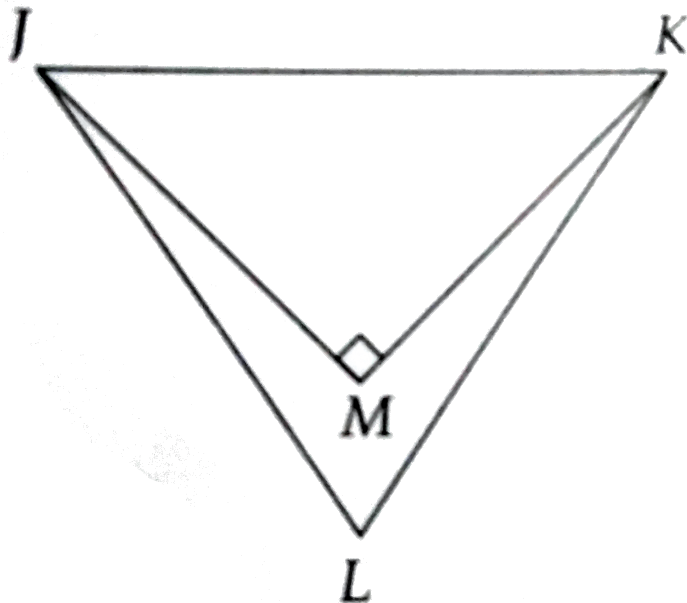

A. $c\sqrt{2}$

B. $c\sqrt{3}$

C. c

D. 2c

Answer: D

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3. $\triangle JKL$ is equilateral, and $\triangle JKM$ is isosceles. If $\overline{KL} = 2$, what is the distance from
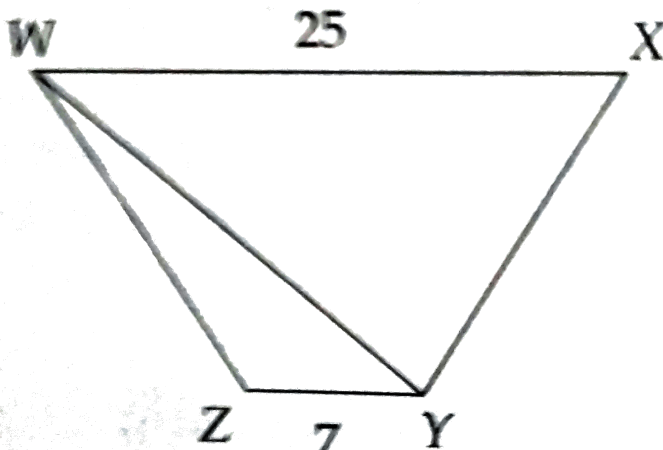
L to M ?

A. 0.572

B. 0.636

C. 0.667

D. 0.732

Answer: D

4. The perimeter of isosceles trapezoid WXYZ is 62. If $\overline{ZY} = 7$ and $\overline{WX} = 25$, what is the length of diagonal WY ?

A. 15

B. 17

C. 20

D. 25

Answer: C

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5. A triangle and a regular hexagon have the same perimeter. If the area of the hexagon is $72\sqrt{3}$, what is the area of the triangle ?

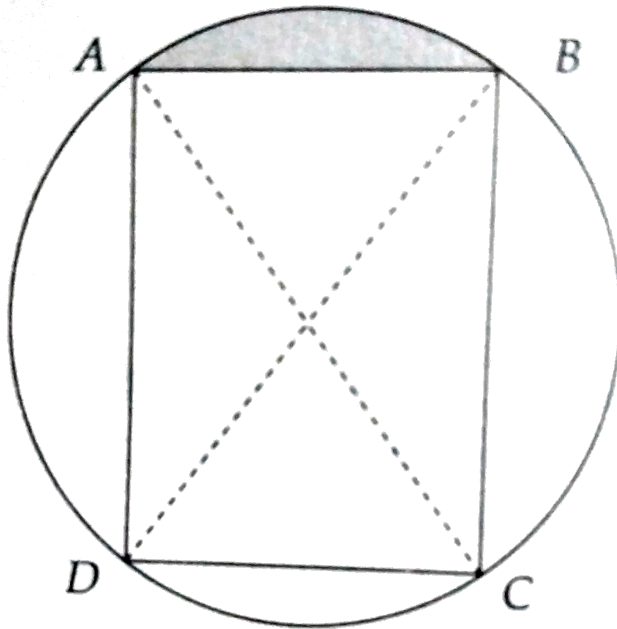A. 62.354

B. 83.138

C. 101.823

D. 103.923

Answer: B

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6. Rectangle ABCD is inscribed in a circle. If the radius of the circle is 2 and $\overline{CD} = 2$, what is

the area of the shaded region ?

A. 0.362

B. 0.471

C. 0.577

D. 0.707

Answer: A

Plane Geometry Follow Up Test

1. The ratio of $\overline{DB}$ to $\overline{EF}$ is 4 to 9. If $\overline{DF} = 2$, what is the distance from D to the midpont of $\overline{EF}$?

A. $\dfrac{9}{13}$

B. $\dfrac{12}{13}$

C. $\dfrac{14}{13}$
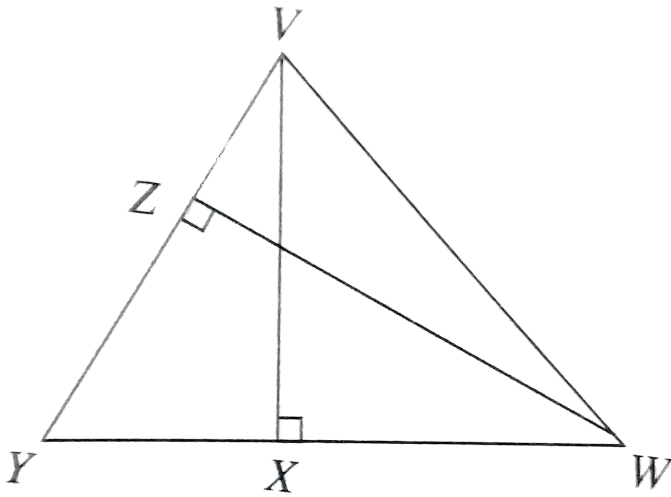
D. $\dfrac{17}{13}$

Answer: D

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2. In $\triangle YVW$ in Figure, $\overline{VX}$ is the altitude to side $\overline{YW}$, and $\overline{ZW}$ is the altitude to side $\overline{YV}$. If $\overline{VX} = 3$, $\overline{YV} = 4$, and $\overline{ZW} = 5$, what is the

length of side $\overline{YW}$?
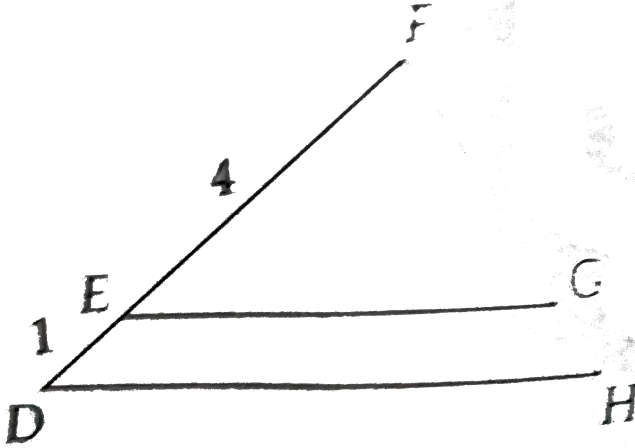

A. 4.157

B. 5.303

C. 6.667

D. 6.928

Answer: C

3. $\overline{EG} \mid\mid \overline{DH}$, and the length of segments $\overline{DE}$ and $\overline{EF}$ are as marked. If the area of $\triangle EFG$ is a, what is the area of $\triangle DFH$ in
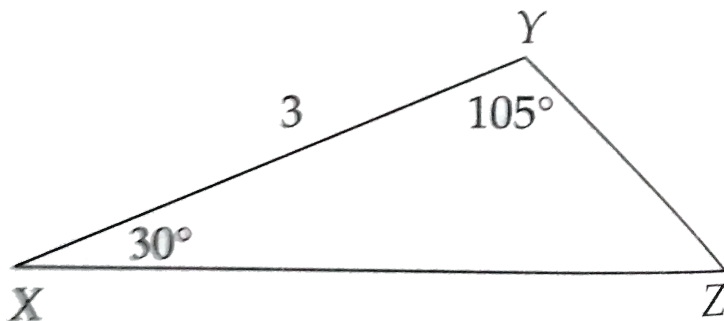
terms of a ?

A. $\dfrac{4a}{5}$

B. $\dfrac{16a}{25}$

C. $\dfrac{16a}{20}$

D. $\dfrac{25a}{16}$

Answer: D

4. If $\overline{XY} = 3$, what is the area of $\triangle XYZ$?

A. 1.949

B. 3.074

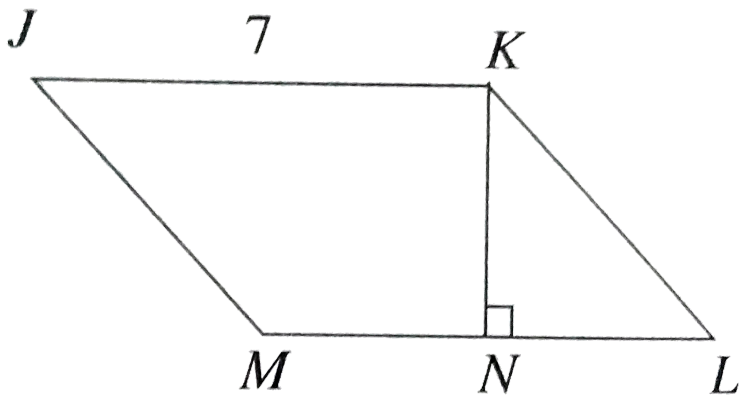C. 5.324

D. 7.529

Answer: B

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5. The area of parallelogram JKLM is 28

$\overline{JK} = 7$. If $\overline{KN}$ is perpendicular to $\overline{ML}$ and if

N is the midpoint of $\overline{ML}$, what is the

perimeter of JKLM ?
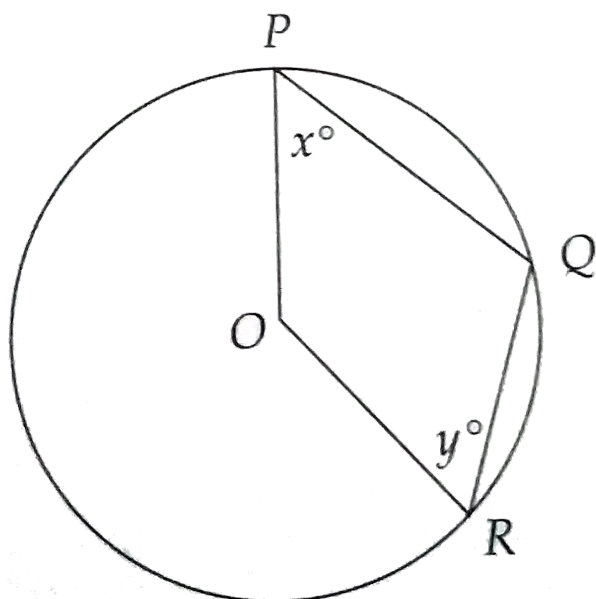

A. 24.6302

B. 23.25

C. 28

D. 31.596

Answer: A

6. Points P, Q, and R lie on the circumference of the circle centered at O. If $\angle OPQ$ measures $x°$ and $\angle QRO$ measures $y°$, what is the measure of $\angle POR$ in terms of x and y ?

A. $(360 + x + y)^{\circ}$

B. $(360 - x - y)^{\circ}$

C. $(360 - 2x - 2y)^{\circ}$

D. $(180 + x + y)^{\circ}$

Answer: C

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