



MATHS

BOOKS - BEYOND PUBLICATION

Miscellaneous Problems

Example

1. Write the powers to which the bases to be raised in the following.

(i) $64 = 2^x$



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2. Write the powers to which the bases to be raised in the following.

(ii) $100 = 5^b$

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3. Write the powers to which the bases to be raised in the following.

(v) $\frac{1}{256} = 4^a$

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4. IF $A = \{6, 9, 11\}$, $\phi = \{\}$, find $A \cup \phi$, $A \cap \phi$.

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5. Write three more polynomials and create three questions for each of them.

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6. Two rails of a railway track are represented by the equations.

$X+2y-4=0$ and $2x+4y-12=0$. Represent this situation graphically..

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7. Check whether the following equations are consistent or inconsistent. Solve them graphically.

$3x+2y=8$, $2x-3y=1$.

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8. Solve the given pair of linear equations.

$(a - b)x + (a + b)y = a^2 - 2ab - b^2$ and $(a + b)(x + y) = a^2 + b^2$

.

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9. A ball is thrown vertically upwards from the top of a building of height 29.4m and with an initial velocity 24.5 m/sec. If the height H of the ball from the ground level is given by $H = 29.4 + 24.5t - 4.9t^2$, then find the time taken by the ball to reach the ground.

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10. Find the roots of the equation using factorisation method.

$$x^2 + 5x + 6 = 0$$

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11. Find the roots of the equation using factorisation method.

$$x^2 - 5x + 6 = 0$$

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12. Find the roots of the equation using factorisation method.

$$x^2 + 5x - 6 = 0$$



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13. Find the roots of the equation using factorisation method.

$$x^2 - 5x - 6 = 0$$



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14. How can you find distance between two points located in different quadrants?



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15. Find the area of the triangle formed by the points by using Heron's formula .

$(1, 1)$, $(1, 4)$ and $(5, 1)$

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16. Find the area of the triangle formed by the points by using Heron's formula .

$(2, 3)$, $(-1, 3)$ and $(2, -1)$

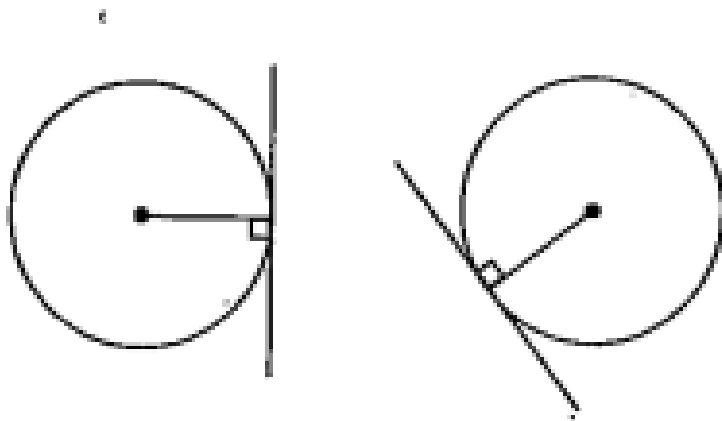
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17. Find the area of the triangle whose lengths of sides are 7 m, 24 in, 25 m (use Heron's Formula)

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18. The common point of the tangent and the circle is called the point of contact and the tangents is said to touch the circle at the common point.

Observe the tangents to the circle in the figures given below.



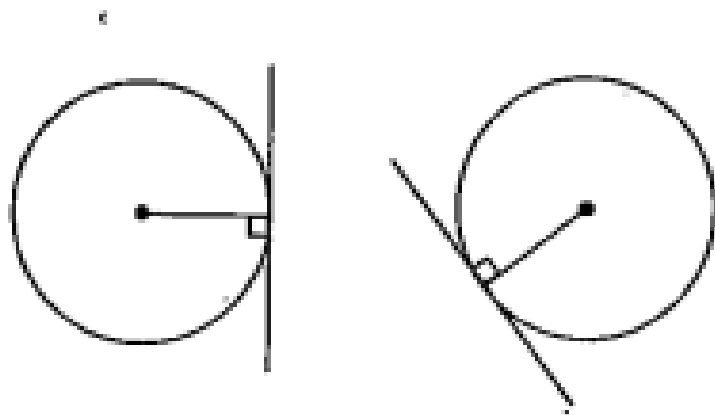
How many tangents can you obtain to the circle.in all?See the points of contact. Draw radii from the points of contact. Do you see any thing special about the angle between the tangents and radii at the points of contact. All appear to be perpendicular to the corresponding tangents.

How many tangents can you draw to a circle at a point?

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19. The common point of the tangent and the circle is called the point of contact and the tangents is said to touch the circle at the common point.

Observe the tangents to the circle in the figures given below.



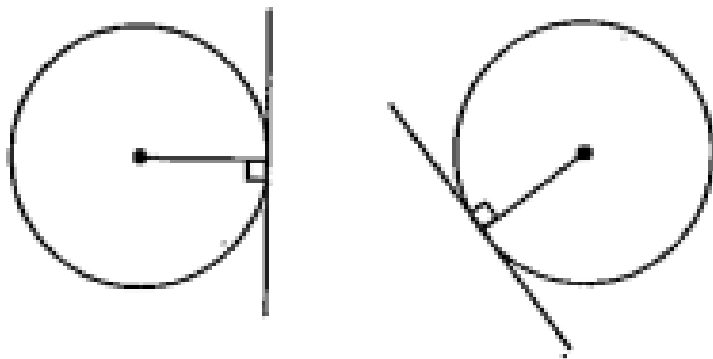
How many tangents can you obtain to the circle.in all?See the points of contact. Draw radii from the points of contact. Do you see any thing special about the angle between the tangents and radii at the points of contact. All appear to be perpendicular to the corresponding tangents.

How many tangents can you obtain to the circle in all?

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20. The common point of the tangent and the circle is called the point of contact and the tangents is said to touch the circle at the common point.

Observe the tangents to the circle in the figures given below.



How many tangents can you obtain to the circle.in all?See the points of contact. Draw radii from the points of contact. Do you see any thing special about the angle between the tangents and radii at the points of contact. All appear to be perpendicular to the corresponding tangents.

Draw radii from the points of contact. Do you see any thing special about the angle between the tangents and radii at the points of

contact. All appear to be perpendicular to the corresponding tangents.

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21. The number of tangents drawn at the end points of the diameter is.....

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22. The sides of a right angle triangle PQR are $PQ = 7$ cm, $QR = 25$ cm and $\angle P = 90^\circ$ respectively. Then find, $\tan Q - \tan R$.

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23. If $\sin A = 15/17$ then find $\cos A$.

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24. Express $\sec A$ and $\cos A$ in terms of sides of right angle triangle

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25. The angle of elevation of the top of a tower from the foot of the building is 30° and the angle of elevation of the top of the building from the foot of the tower is 60° . What is the ratio of heights of tower and building?

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