Revision

Geometry, Trigonometry & Graphs

Questions

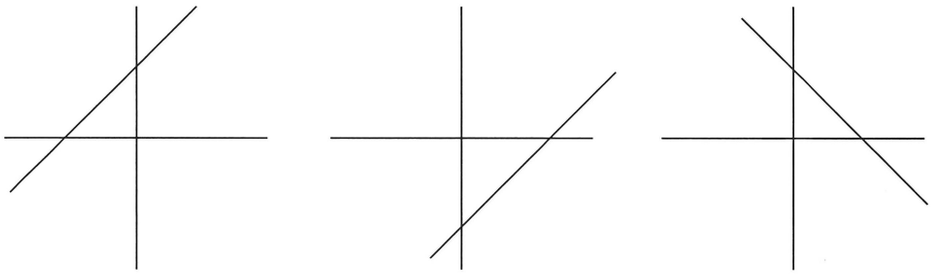
1) Which of the following equations represents a linear equation:

a. $y = x^2 - 2$

b. $y = \sqrt{x} + 1$

c. $y = 3 - 8x$

2) One of the following diagrams represents the graph of the linear equation y = 3x - 2. Which:



(a) (b) (c)

3) Of the following three pairs of equations, all representing straight lines, which pair are parallel to each other:

a. $y = 3x + 2$

$y = -3x - 2$

b. $y = 4x + 1$

$y = \frac{1}{4}x + 1$

c. $y = -5x + 1$

$y = 7 - 5x$

4) **What is the gradient of the line represented by the equation 3x - 5y = 5:**

$3x - 5 = 5y$

$\frac{3x-5}{5} = y \Rightarrow y = \frac{3}{5}x - 1$

a. 2/3

b. 3/5

c. - 2/3

5) **At what point does the straight line represented by the equation y = 7 - 5x cross the y-axis:**

$x = 0$ $\boxed{y = 7}$

a. - 7

b. - 5

c. 7

6) **The equation 5y = 5x - 3 and y = 7 + 5x give rise to straight lines. Are these lines:** $y = x - \frac{3}{5}$ $y = 5x + 7$

a. Perpendicular to each other

b. Parallel

c. Neither parallel nor perpendicular

7) **Which of the following equations would NOT produce a quadratic graph:**

a. $y = x^2$

b. $y = x^3 + 1$

c. $y = x^2 - 3x$

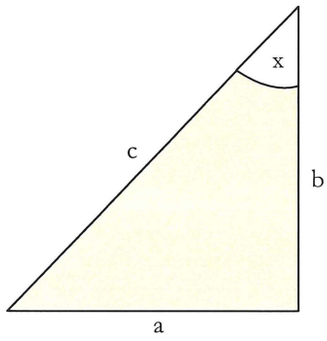
8) **What type of graph would the equation $y = x^3 - x^2 - 4x + 4$ produce:**

a. Linear

b. Cubic

c. Quadratic

9) In the adjacent figure, Sin x is:



a. b/c

b. a/c

c. a/b

10) In the figure above, Tan x is:

a. a/b

b. a/c

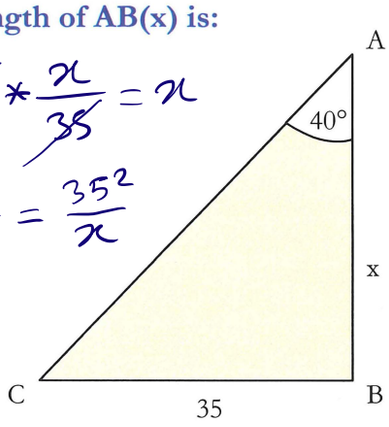
c. b/c

11) The expression for the length of AB(x) is:

a. $\frac{35}{Tan40^o} = \frac{35}{35/x} = 35 * \frac{x}{35} = x$

b. $35 \text{ Tan } 40° = 35 * \frac{35}{x} = \frac{35^2}{x}$

c $\frac{Tan40}{35^o} = \frac{35/x}{35} = \frac{1}{x}$

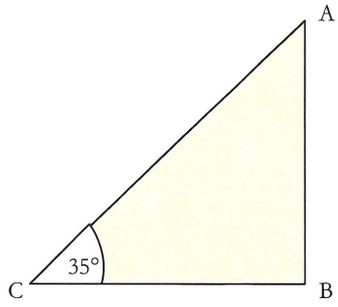


12) What is the expression for the Cos of 35°:

a. *BC/AB*

b. *AB/AC*

c. *BC/AC*



13) A triangle which has two equal sides is called an:

a. Equilateral triangle

b. Isosceles triangle

c. Scalene triangle

14) An obtuse angled triangle has:

a. One angle greater than 90°

b. One angle greater than 180°

c. No angles greater than 90°

15) The area of a Trapezium is equal to:

a. Sum of parallel sides times the height

b. One half the sum of the parallel sides times the height

c. One half the sum of the parallel sides times one half the height

16) A right angled triangle has two sides, other than the hypotenuse, whose lengths are 5 units and 12 units, the length of the hypotenuse is:

a. 17 units

b. 7 units

c. 13 units

17) The angle 120° expressed in radians is:

a. π

b. π/3

c. 2π/3

$$\frac{\pi * 120}{360} = \frac{\pi}{3}$$

18) Angles that add up to 90° are called:

a. Complimentary

b. Supplementary

c. Subordinate

19) How many degrees is π radians equal to:

a. 360°

b. 90°

c. 180°

20) In a circle of radius r, where θ is the angle subtended by the arc at the centre, the correct formula for the area of the sector so formed is:

a. π r θ $\frac{\pi r^2 \theta}{360}$

b. ½π θ

c. ½ r^2 θ

21) Two triangles are said to be similar if:

a. The three sides of one are equal to the three sides of the other.

b. The three angles of one are equal to the three angles of the other

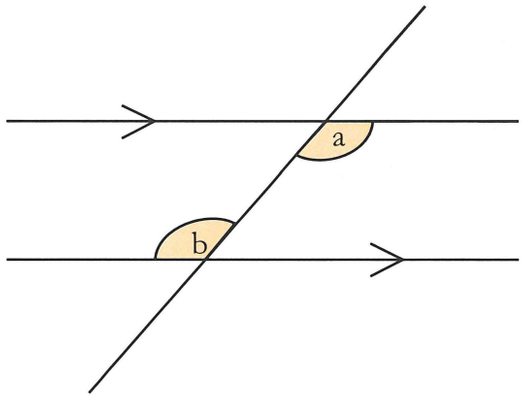
c. One angle and one side of one are equal to one angle and one side of the other.

22) In the following diagram, angles a and b are called:

a. Corresponding

b. Subordinate

c. Alternate

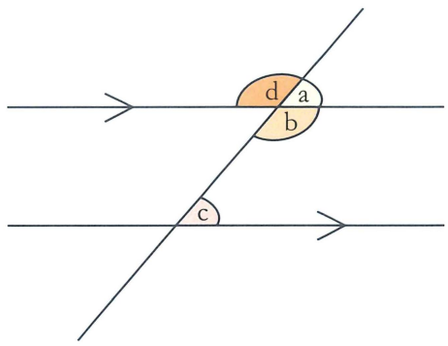


23) In the following diagram, which angle is corresponding to a:

a. b

b. c

c. d

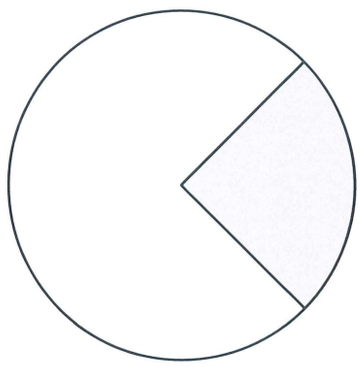


24) The shaded part of the following diagram is called:

a. Secant

b. Sector

c. Portion



25) Which of the following expressions will give x, the unknown side:

a. 10 Sin 50° $= 10 * \frac{y}{10} = y$

b. 10 Tan 40° $= 10 * \frac{y}{x}$

c. 10 Cos 50°

$10 * \frac{x}{10} = x$