



MATHS

BOOKS - INDEPENDENTLY PUBLISHED

MATHS (ENGLISH)

**STRATEGIES FOR SOLVING SAT MATH
PROBLEMS**

Example

1. In a certain election, several students collected signatures to place a candidate on the ballot . Of these signatures . 25 percent wer thrown out as invalid . Then a further 20 percent of those remaining were eliminated. What percent of the original number of signatures were left ?

A. 40 %

B. 45 %

C. 55 %

D. 60 %

Answer: D



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2. Three consecutive odd integers are such that three times the middle integer is 25 more than the sum of the smallest and largest . Find the largest of the integers .



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3. If $a = b^2c$, where $a \neq 0$ and $b \neq 0$, then $\frac{b}{c} =$

A. $\frac{a}{b}$

B. $\frac{a}{bc}$

C. $\frac{a}{b^2c}$

D. $\frac{a}{bc^2}$

Answer: D



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4. Mary has d dollars to spend and goes on a shopping spree . First she spends $\frac{2}{5}$ of her money on shoes . Then she spends $\frac{3}{4}$ of what's left on a few books. Finally she buys a raffle ticket that costs $\frac{1}{3}$ of her remaining dollars. What fraction of d is left ?

A. $\frac{1}{10}$

B. $\frac{3}{20}$

C. $\frac{1}{5}$

D. $\frac{3}{10}$

Answer: A



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5. If x is not equal to 2 or -2 . Which s
equivalent to $\frac{3x^2 - 8x + 4}{x^2 - 4}$?

A. $3-8x$

B. $\frac{3x - 2}{x + 2}$

C. $\frac{3x - 2}{x - 2}$

D. $\frac{3x + 2}{x + 2}$

Answer: B



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6. A man has x dollars to be divided equally among p people. If n newcomers join the group, how many fewer dollars does each person get than each of the original people would have received ?

A. $\frac{xn}{p+n}$

B. $\frac{x}{p+n}$

C. $\frac{xn}{p^2 + pn}$

D. $\frac{-xn}{p^2 + pn}$

Answer: C



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7. Which is a solution to $(8^x)(2^4) = \left(\frac{1}{2}\right)^x$?

A. -2

B. -1

C. $-\frac{1}{12}$

D. 0

Answer: B



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8. If $\frac{x^2 - x - 6}{x^2 - 4x + 3} = \frac{4}{3}$, find x .

A. -10

B. -2

C. 2

D. 10

Answer: D



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9. Line segment \overline{AB} has midpoint $(7,-1)$. If point A has coordinates $(2,6)$, then point B has coordinates

A. $\left(\frac{9}{2}, \frac{5}{2}\right)$

B. $\left(\frac{19}{2}, -\frac{9}{2}\right)$

C. $(12,-8)$

D. $(14,-8)$

Answer: C



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10. The sides of a triangle are in the ratio 4:3:2 . If the perimeter of the triangle is 792, what is the length of the smallest side ?

- A. 176
- B. 200
- C. 264
- D. 352

Answer: A



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11. Ten pounds of mixed nuts contain 50 percent peanuts . How many pounds of peanuts must be added so that the final mixture has 60 percent peanuts ?

A. 2.5

B. 5

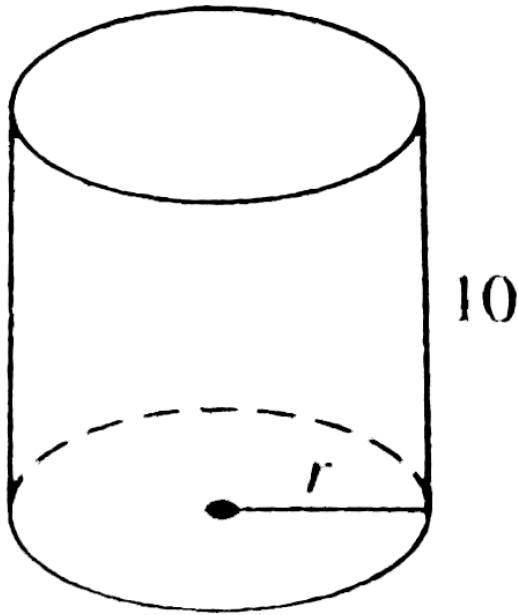
C. 6

D. 10

Answer: A



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12.

If the volume of the cylinder shown above is $1,000\pi^3$, then the value of r , the radius of the base, is

A. π

B. $\sqrt{10}$

C. 10

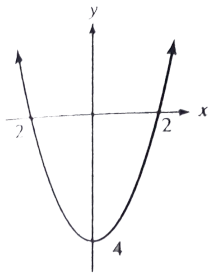
D. 10π

Answer: D

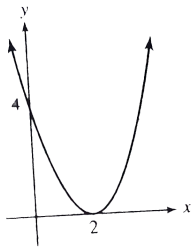


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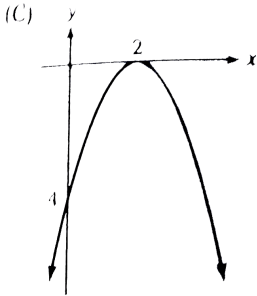
13. Which is the graph of $y = -(x - 2)^2$?



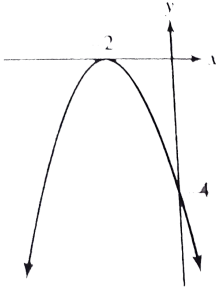
A.



B.



C.



D.

Answer: C



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14. Find the points at which the graphs of

$$y = \frac{1}{2}x^2 - 3 \text{ and } y = x + 1 \text{ intersect.}$$

A. (-2,-3) (4,5)

B. (-1,-2) (5,4)

C. (-4,-3) (-2,4)

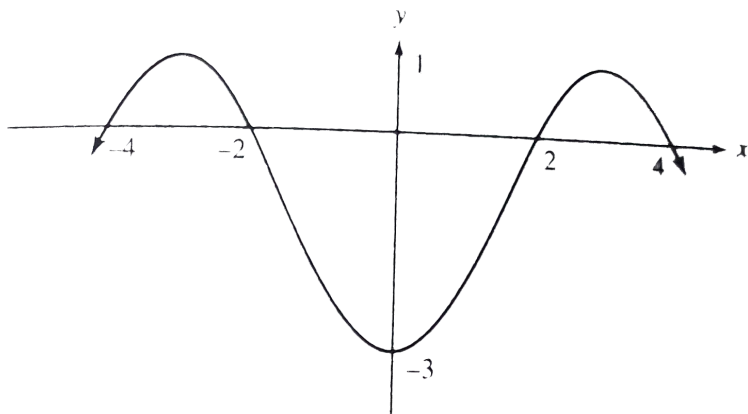
D. (-2,-1) (4,5)

Answer: D

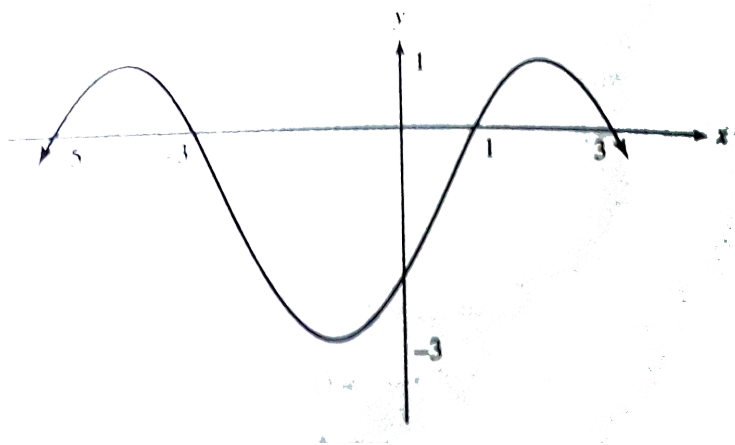


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15. The graph of $f(x)$ is shown below :



A transformation is applied that results in the following graph :



Which of the following functions describes this graph ?

A. $f(x-1)$

B. $f(x+1)$

C. $f(x)-1$

D. $f(x)+1$

Answer: B



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16. The solution to the inequality $|2x-1| \leq 6$ is

A. $x < -\frac{5}{2}$ or $x > \frac{7}{2}$

B. $-\frac{5}{2} < x < \frac{7}{2}$

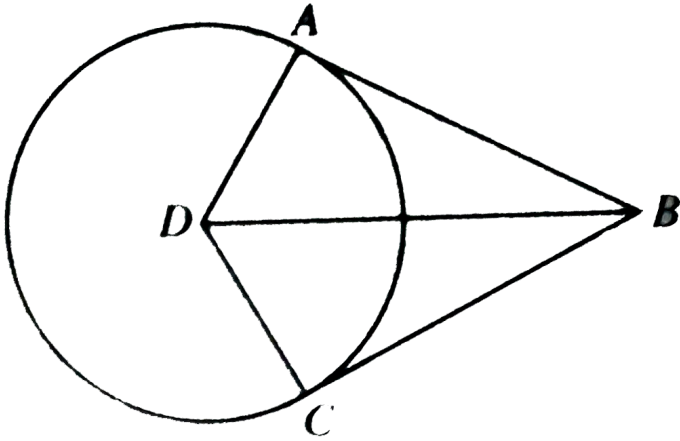
C. $x < -\frac{7}{2}$ or $x > \frac{5}{2}$

D. $-\frac{7}{2} < x < \frac{5}{2}$

Answer: C



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17.

In the figure above , a circle with center D has tangents \overline{BA} and \overline{BC} at points A and C , respectively . If \overline{BD} has length 17 and \overline{BC} has length 15 , find the perimeter of quadrilateral $ABCD$.



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18. Given that $x^2 + y^2 = 4$ and $x^2 + y^2 - 4x - 4y = -4$, then $x + y =$

A. 1

B. 2

C. 3

D. 4

Answer: B



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19.

An equilateral triangle with side 12 is inscribed in a circle . Find the shaded area .

A. $12\pi - 36\sqrt{3}$

B. $36\pi - 48\sqrt{3}$

C. $36\pi - 36\sqrt{3}$

D. $48\pi - 36\sqrt{3}$

Answer: D



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