

Institute m # " mutall m # " multille m # 3 multille m # 3 mutule mark 's mutall m # \*\* , c.  $x \in (A \cap B \cap C)$ e.  $x \in (\overline{A} \cap (B \cap \overline{C}))$ 5. Let A, B, and C be nonempty sets and  $\overline{A}$  be defined as the complement of set A (similar notation for other sets). If  $A \subset \overline{B}$ ,  $x \in B$ , and  $x \in ((A \cap \overline{C}) \cup (\overline{A} \cap C))$  then: institute 3 b.  $x \in (A \cap B \cap \overline{C})$ a.  $x \in (\overline{A} \cap B \cap C)$ d.  $x \in (A \cap (B \cup C))$ 6. MR # # B PK 13 Ph 加斯林婆佛 N. If the height of a cylindrical can is increased by 28%, by approximately what percentage should the diameter be increased in order to double the volume of the can? Withite the the 'S PR a. 72% b. 31.1% c. 28.8% d. 25% e. 23.1% Ro IN WE WE W The following statements describe a race between Art, Bobbie, Chris, and Francis. 7. i. Art is not last but is 8 seconds behind the leader. Bobbie is 5 seconds ahead of the next runner. mutute ## # 'S PE ii. matitute # # 3. 频从资料 R Chris is 1 second behind someone. Francis is ahead of Bobbie. How many seconds are there between the leader and the second place runner? a. 8 seconds b. 5 seconds c. 3 seconds d. 2 seconds e. 1 second HE 教育 按 · 浅 92 Within the the 'S Y. Find the circumference of a circle that circumscribes a regular hexagon with area of  $42\sqrt{3}$  cm<sup>2</sup>. 8. c.  $2\pi\sqrt{42}$  cm d)  $4\pi\sqrt{42}$  cm b.  $21\pi\sqrt{3}$  cm a.  $4\pi\sqrt{7}$  cm mstitute # # '& PL e, none of these multure ## # '\$ maximue ## # "3" maximue ## # 1 multinte # \*\* matinte # # " R. 9. A ship travels west for 16 miles, then northwest for 12 miles, finally it goes north for 9 miles, approximately how far is it from its starting point? e. none of these N. a. 37 miles 的海豚 d. 22 miles c. 27 miles b. 30 miles 而如此他教林客张 面射曲線新林塔梯 militute ## # 18 18 Astitute # # # 18 Institute the the 'S PR institute ## # '\$ 1% N. to the the the Lo the the the to the the the to the the B Ph Lo the the 1/2 1/2 Ro 古 杨林 诸



Institute \$ 75 multine m # " multine m # 3 matine m # 3 mittill m # 3 multine m # 3 15. Two circles are drawn internally tangent to one another, as shown. The segments given are parts Y. of the extended diameters of the smaller circle. If x=12 and y=5 what is the length of the larger itute the circle's radius. a.  $18\frac{1}{2}$ b.  $12\frac{1}{2}$ matitute ## # '& P& 面动机机精精样等除 面的机机都林塔像 Withit the the the the c. 17 nititute # d.  $2\sqrt{60}$ e.  $21\frac{1}{4}$ Find all possible values for y given that x, y, z are natural numbers and the following constraints:  $\frac{1}{2}$ 16. myilute ## mstitute ## tute wark 林融 i. y > x + 3ii. 0 < z - y < 10iii. x + z = 13a. y ∈ {4,5,6}  $\{4,5,6\} b. y \in \{8,9,\dots,11\} c. y \in \{4,5,\dots,9\} d. y \in \{5,6,\dots,11\} c. y \in \{5,6\dots,12\}$ 加城林後隊 Ro 17. A circle of radius 25 has a chord going through a point that is located 10 units from the center. What is the shortest possible length that chord could have? b.  $\sqrt{525}$  c. 40 d.  $\sqrt{1050}$  e.  $\sqrt{2100}$  **m**  $^{4}$   $^{4}$   $^{6}$ Millitte 新 4. 25 Y. 14410 m # 3 % 频从浅彩 Find the area of quadrilateral ABCD with lengths as shown 18. Mainte A 18 and the measure of  $\angle ABC = 90^{\circ}$ . Astitute the a. 46 sq units 130 sq units c. 114 sq units b. 9 d. 168 sq units e. none of these institute ## # '& R stitute \$ # 3 PS Artitute the the " the Malilule # # '\$ 1% 加加加斯林塔梯 В No. stitute the the the 12 Find the size of the larger angle in a parallelogram given that the smaller angle is one quarter the 19. size of the larger angle. .- 'Se. none of these 's 'k c. 122<sup>1</sup>/<sub>4</sub>° a. 72° b. 80° - 4 d. 144° N. msitute # to the the the to the We B \*\*\*\*\*\*\*\*\*\* to the the By to the the B PR to the the Belle Ro

TUNITING WAY 28 Institute m X 3 multille # # \* matitute # # \* Institute \$7 the 'S matinte m # " R Find the area of a right triangle whose perimeter is 28 cm and whose hypotenuse is 12 cm. 20. tute the a. 48 cm<sup>2</sup> b.  $24\sqrt{7}$  cm<sup>2</sup> c.  $12\sqrt{7}$  cm<sup>2</sup> d.  $8+4\sqrt{2}$  cm<sup>2</sup> e. 28 cm<sup>2</sup> 加加斯林省際 2411 新林 法 然 Ro An arbelos, pictured on the right, is the region formed by three mutually tangent circles whose centers are collinear. If the diameters of the two smaller circles are a and b, what is the circumference of the arbelos? a.  $(a+b)\mathbf{p}$  b.  $2\mathbf{p}\sqrt{ab}$  c.  $\frac{ab\mathbf{p}}{2}$  d.  $2\mathbf{p}\sqrt{a^2+b^2}$  e. e.  $\frac{3(a+b)\mathbf{p}}{2}$ Y. e.  $\frac{5\sqrt{10}}{8}$ d.  $\frac{25}{8}$ Find the area of a rectangle whose perimeter is the square 22. of its longer side and 10 times the length of its shorter side. c.  $\frac{25}{16}$ b. 25 a. 1,000 titute mat 3 18 前加加斯林省院 山山的海林姿界 Me MAK & R time to the state of the state atimite \$6 # 13 PS Ro The area of the shaded region between two squares is half as large as the 23. area of the smaller square. If the smaller square has an area of  $42 \text{ cm}^2$ , how long is the side the larger square? Distitute # # # 18 a.  $3\sqrt{7}$  cm b. 8 cm c.  $7\sqrt{3}$  cm d.  $\sqrt{42}$  cm N. e. none of these hour. If it rolled for 10 minutes how many complete revolutions did it make? · 3 9% A wheel with a 30 centimeter radius rolled down a hill at a constant speed of 20 kilometers per 物冰 c. 3.536 d. 106 a. 1,768 e. 106,103 b. 3,333 而如此他教林塔梯 mutule ## # '& PL militute ## # 18 18 Astitute ## # 18 matinue ## # '\$ % Autitute # # 13 PR N. to the the the to the bit is the to the bit is the to the We B to the W. B. M. to the the B Ph Ro

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18 25.	The parallelogram ABCl side $\overline{AD}$ ? a. $5(\sqrt{2}+1)$ b. $5(\sqrt[4]{10})$	D has $AB = BE = A$	$ED$ , and m $\angle ABE$	$C = 90^{\circ}$ . If its area	is 25 how long is	Institute
10 stitute *	c. $5(\sqrt[4]{2} + \sqrt{2})$ d. $10(\sqrt{2} + 1)$ e. $5\sqrt{2 + \sqrt{2}}$	Townstatte mark A	E Millitte State H	Taylittle D	Maximue ## # '3 #	Mistitute
26.	Given two intersecting line below also passes throug a. $y = 2x+1$ b. y	the point of intersection $2x - y = 1$ and the point of intersection $= \frac{3}{2}x - 1$ c. 5	ad $3x - 2y = -1$ , section? 5x - 3y = 1 d.	which of the lines $3x + 5y = 15$ e.	none of these	Institute
27.	Three circles, mutually ta and x. If their centers at a. 5 b. $\sqrt{29}$	angent to one anothere vertices of a right $\overline{9}$ c. 6	er have radii of leng triangle, find the va d. $\sqrt{421}$	gths, 14, 15, alue for $x$ . e. none of these		
128.10 ×	In a large bin there are 1 without stripes. If there many black hats without	18 hats. They con are 44 red hats, 64 stripes are there?	ne in two colors, red 4 hats with stripes,	d or black, and two and 33 red hats w	styles with or ith stripes, how	Mastitute
K Mulitute 29.	a. 85 b. 4 The height of a square py area of one of these trian	3 c. 2 vramid formed by fo gles?	23 d.	10 c.	41 the surface	Mastitute
100 situte # 30.	a. $50\sqrt{3}$ b. 1 A cylindrical can with a with a diameter of 14 cm	diameter of 14 cm a	$3\sqrt{50}$ d. and a height of 28 c. of the space in the	$100\sqrt{3}$ e. m contains 2 spheri can is not occupied	none of these cal balls each d by the balls?	Institute
K Institute X	a. $33\frac{1}{3}\%$ b. 25	5% the c. 1	$6\frac{2}{3}\%$ d.	$66\frac{2}{3}\%$ e.	8 <sup>1</sup> / <sub>3</sub> %	Mastitute
ero Altonia	WH'E THO WH'E TO	"你放子"多句	· 振频·法等	"你"这"	"你"来"这个	24



