



12. John's grades in Algebra are: 88 for the homework average, 76 for the quiz average, and 82 for the project average. If homework counts as 10% of the course grade, quizzes count for 40% of the grade, projects count for 20% of the grade, and the final exam counts for the rest, what grade does John need on the final exam to get an 85 average?

matitute \$\$ \$

multinu m # 3

matinu m # 3

multine m # "

multille m # "

multine m # "





24. Find all real numbers *a* such that the system of simulaneous equations

$$\begin{cases}
3x - ay = 7 \\
(ax - 3y = -7)
\end{cases}$$
This infinitely many solutions (x, y):
a) 3 b) 3 c) -3 d) -7 c) None of these
3. Consider an equilateral triangle ABC. Let P be a point in the interior of triangle ABC, such that
prependicular lines PD, PE, and PF are drawn to the sides AB, BC and AC at the points D, E, F
respectively. Let b be an altitude of triangle ABC, and let $a = PE, b = PF, and c = PD$. Find a
respectively. Let be an altitude of triangle ABC, and let $a = PE, b = PF$, and $c = PD$. Find a
respectively. Let be an altitude of triangle ABC, and let $a = PE, b = PF$, and $c = PD$. Find a
respectively. Let b be an altitude of triangle $ABC, and let $a = PE, b = PF$, and $c = PD$. Find a
respectively. Let b be an altitude of triangle $ABC, and let $a = PE, b = PF$, and $c = PD$. Find a
 $a (x | x \neq 1 \} b) (x | x < 0 \} c) (\frac{3}{b} = \frac{6}{b} d) h = a + b + c c (b) None of these
(1. Let $f(x) = \frac{\sqrt{1-x}}{x-|x|}$. Find the domain of $f(x)$:
a) $(x | x \neq 1 \} b) (x | x < 0 \} c) (x | x > 0 \} d) (x | x \neq 0 \} c) (x | x < 1, x \neq 0)$
(2. Let $f(x) = \frac{x - \frac{15}{x}}{x-\frac{2}{x-1}}$.
Find the sum of all real values of x such that $f(x) = 0$.
(a) $(b) - 2 c) (2 d) - 3 c) (3 d)$
(b) $(4, 1, 1, 1) c) (2, 3 d) (3, 4) c) (4, 5)$
(c) Consider the function $f(x) = x + 1$. Find the point on the graph of $f(x)$ which is closest to the
(b) $(4, 1, 1, 1) c) (2, 3 d) (3, 4) c) (4, 5)$
(c) Consider the AMNP. \overline{MR} bisects $\angle NMP, MN = 2y, NR = y, RP = y + 1$, and $MP = 3y - 1$,
(b) M
(c) $M$$$$

上 按读像 ~ 按读像 西城市 小妆花像

multille m # " multine m # " multine m # 3 multine m ** ** mutall m # 3 multine m # 3 30. A circle is tangent at P to the side \overline{BC} of the square ABCD. The vertices A and D are on the circle as Y. itute ## #* shown. The side \overline{DC} intersects the circle at Q. Which of the followings is NOT true? C 而如此他称样後 N. mistitute ### a) $\angle QPA$ is a right angle b) \overline{AP} bisects $\angle QAB$ d) $m \angle PQC + m \angle BAP > 90^{\circ}$ c) $m \angle BAP = m \angle QPC$ mythill # # B e) \overline{AQ} is a diameter of the circle. Ro 31. Which group of 8 integers has a mean of 6, a mode of 4 and a median of 5? a) 2,4,4,4,7,9,9,9 b) 4, 5, 2, 4, 4, 8, 9, 10 e) None of these c) 3, 4, 6, 8, 10, 16, 8, 4 d) 4,3,12,10,8,6,4,1 而此加出教林塔梯 R 32. Let *n* be a positive integer. Consider the function $f(x) = 9x^{2n+1} + 9x^{2n} + 27x^{2n-1} + 27.$ Find the remainder when f(x) is divided by (x + 1). mistinte # # '& PC c) 18 d) 27 e) None of these b) 9 a) R. 33. Solve the inequality for all real x, x < 2x + 1 < 3x + 2. a) (−1, ∞) b). (0, ∞) c) (1, ∞) d) (2, ∞) e) None of these tastitute ## # '\$ 18 mistille # # 'S PS N. 34. Define $ai + bj = \begin{bmatrix} a & b \\ -b & a \end{bmatrix}$. Compute (2i + 3j)(3i - 4j). a) 6*i* − 12*j* c) -6i + je) None of these b) 6*i* + 12*j* d) 18*i* + *j* matinue ## # '& R stitute # # * * * Ro 35. For what choice of k will the following system be consistent? $\begin{cases} 2x + y = 5\\ x - 3y = -1\\ 3x + 4y = k. \end{cases}$ a) 0 b) 9 matinte # d) 'S * e) None of these N. matitute (c) 10 小学生 to the bet the Ph to the the the to the With the Ph to the the the to the W. B. M. N.

