Example of qlt 1, task 5 essay

Family, Parents

A. 1A single mom has to go back to work and needs day care for her baby. She is trying to decide between a baby sitter, who cares for children in her home, ora nearby day care center. The baby sitter charges a flat rate of $10 per hour, and the localday carecenter charges $325 per week, for 5 days per week, up to 40 hours. (Mon-Fri), plus $10 per hour for any time exceeding 40 hours.

A. 2The baby's mom will need day care services M-F from 7: 30-5: 30 (10 hours per day, or 50 hours per week).

A. 3The baby sitter charges a flat rate of $10 per hour, and the local day care center charges $325 per week, for 5 days per week, up to 40 hours. (Mon-Fri), plus $10 per hour for any time exceeding 40 hours. The baby sitterwould cost $100 dollars per day or $500 per week. The day care center would cost $325 per week plus $100 to cover the additional hours per week. The total would be $425 per week.

B. 1 To figure costs for the baby sitter: 10 hours X 5days = 50 hours X $10per hour= $500

An algebraic equation in which x would represent hours of child care per week could be multiplied by cost of care per hour ($10), and y would represent the weekly rate.

y= 10x

500=(10)(50)

10 extra hours X $10 = $100 +$325=$425

In order for an algebraic expression to determine the weekly rate (y), the hours of care (x) must be subtracted by 40, which is the hour limit in the weekly rate of $325. 10 (dollars per hour charged for overage) must be

multiplied by 10 (actual extra hours). $325 must be added to 10, in order to solve for y.

y=(x-40)(10)+325

425=(10)(10)+325

425= 100+325

B. 2In order to figure out costs for the baby sitter, the 10 (hours of child care per day) is multiplied by 5 (days per week). This would equal 50 (hours of childcare per week), times 10 (dollars per hour), which would equal $500. An algebraic equation in which x would represent hours of child careper weekcould be multiplied by cost of care per hour ($10), and y would represent the weekly rate.

y= 10x

500=(10)(50)

In order to figure out costs for the day care center, it is best to first calculate the total number of hours per week of needed childcare (10 hours per days times 5 days a week = 50 hours), and then subtract 40 hours from that, to figure out how many hours over 40 the child will be in day care (50 hours minus 40 hours equals 10 extra hours). The 10 extra hours must be multiplied by $10 (10 times $10 equals $100 extra dollars). The last step is to add the flat 40 hours rate ($325) to the extra dollar amount ($100) which would equal $425.

In order for an algebraic expression to determine the weekly rate (y), the hours of care (x) must be subtracted by 40, which is the hour limit in the weekly rate of $325. 10 (dollars per hour charged for overage) must be multiplied by 10 (actual extra hours). $325 must be added to 10, in order to

solve for y.

y=(x-40)(10)+325

425=(10)(10)+325

425= 100+325

B. 3 - ordered pairs and determining a point of equivalency

Given That both equations considered for solution of the problem have the same slope and different point of inter point of interception with the Y-axis (which means that the linear equation represent parallels lines), by definitions there is none point of equivalency between them.

Slope = +10

The following chartsshow solutions and the ordered pairs, in which the differences are represented at 40, 45, 50, 55, 60, 65, and 70 hours of child care per week.

Baby sitter

X= 40 (hours of care), y= 10x, y= 10 times 40, y= 400 ordered pairs (40, 400)

X= 45 (hours of care), y= 10x, y= 10 times 45, y= 450 ordered pairs (40, 450)

X= 50 (hours of care), y= 10x, y= 10 times 50, y= 500 ordered pairs (40, 500)

X= 55 (hours of care), y= 10x, y= 10 times 55, y= 550 ordered pairs (40, 550)

X= 60 (hours of care), y= 10x, y= 10 times 60, y= 600 ordered pairs (40, 600)

X= 65 (hours of care), y= 10x, y= 10 times 65, y= 6500 ordered pairs (40, 650)

X= 70 (hours of care), y= 10x, y= 10 times 70, y= 700 ordered pairs (40, 700)

Day Care Center

X= 40 (hours of care), y=(x-40) times10, plus 325, y=(40-40) times 10, plus 325, 0 times 10, plus 325= 325, ordered pairs (40, 325)

X= 45 (hours of care), y=(x-40) times10, plus 325, y=(45-40) times 10, plus 325, 5 times 10, plus 325= 375, ordered pairs (40, 375)

X= 50 (hours of care), y=(x-40) times10, plus 325, y=(50-40) times 10, plus 325, 10 times 10, plus 325= 425, ordered pairs (40, 425)

X= 55 (hours of care), y=(x-40) times10, plus 325, y=(55-40) times 10, plus 325, 15 times 10, plus 325= 475, ordered pairs (40, 475)

X= 60 (hours of care), y=(x-40) times10, plus 325, y=(60-40) times 10, plus 325, 20 times 10, plus 325= 525, ordered pairs (40, 525)

X= 65 (hours of care), y=(x-40) times10, plus 325, y=(65-40) times 10, plus 325, 25 times 10, plus 325= 575, ordered pairs (40, 575)

X= 70 (hours of care), y=(x-40) times10, plus 325, y=(70-40) times 10, plus 325, 30 times 10, plus 325= 625, ordered pairs (40, 625)

C. The graph below shows the two different options for child care

D. There are two options for child careone based on an hourly rate, and the other based on a weekly rate, up to 40 hours with overage fees.