charges $19.95 per month plus $0.20 per minute. Use the questions to find when the two plans cost the same.

1. Complete the table.

(handwritten) $24.95 + .1(30) =$

$24.95 + 3$

Minutes (m)	Plan A $24.95 + 0.10m$	Plan B $19.95 + 0.20m$
10	25.95	21.95
20	26.95	23.95
30	27.95	25.95
40	28.95	27.95
50	29.95	29.95
60	30.95	31.95
70	31.95	33.95

(handwritten)
$19.95 + .3(10.)$

$19.95 + 2$

$19.95 + .2(20)$

$19.95 + 4$

50	29.95	29.95
60	30.95	31.95
70	31.95	33.95

2. For what value(s) does Plan A cost less?

values greater than 50 min

3. For what value(s) does Plan B cost less?

values less than 50 min

4. For what value(s) do both Plans cost the same?

50 min

Which **MP** **Mathematical Practices** did you use?
Shade the circle(s) that applies.

① Persevere with Problems   ⑤ Use Math Tools

② Reason Abstractly   ⑥ Attend to Precision

③ Construct an Argument   ⑦ Make Use of Structure

④ Model with Mathematics   ⑧ Use Repeated Reasoning

Guided Practice

Solve each equation. Check your solution. (Examples 1, 2, 4)

1. $5n + 9 = 2n$ **−3**

Show your work.

2. $7y - 8 = 6y + 1$ **9**

3. $\frac{3}{5}x - 15 = \frac{6}{5}x + 12$ **−45**

4. EZ Car Rental charges $40 a day plus $0.25 per mile. Ace Rent-A-Car charges $25 a day plus $0.45 per mile. What number of miles results in the same cost for one day? (Example 3) __**75 mi**__

5. @ **Building on the Essential Question** How is solving an equation with the variable on each side similar to solving a two-step equation? **Sample answer: Solving any equation uses the properties of equality. Solving an equation with the variable on each side usually adds an additional step to solving a two-step equation.**

Solve each equation. Check your solution. (Examples 1, 2, 4)

1. $7a + 10 = 2a$ **−2**

Show your work.

2. $11x = 24 + 8x$ **8**

3. $8y - 3 = 6y + 17$ **10**

4. $5p + 2 = 4p - 1$ **−3**

5. $15 - \frac{1}{6}n = \frac{1}{6}n - 1$ **48**

$-1 + \frac{1}{6}n + \frac{1}{6}n + 1$
_____   _____

$16 = \frac{2}{6}n$

$\frac{3}{1}(16 = (\frac{1}{3}n)\frac{3}{1}$

6. $3 - \frac{2}{9}b = \frac{1}{3}b - 7$ **18**

$\frac{3}{9}$

$+7 + \frac{2}{9}b + \frac{2}{9}b + 7$
_____   _____

$\frac{9}{8}\Big|\; 2+0 = \frac{5}{9}b \cdot \frac{9}{5}$

$b = 9 \times 2$

$\frac{3}{1}$

7 Nine fewer than half a number is five more than four times the number. Define a variable, write an equation, and solve to find the number. (Example 3)

Let n = the number; $0.5n - 9 = 4n + 5$; -4

7 Nine fewer than half a number is five more than four times the number. Define a variable, write an equation, and solve to find the number. (Example 3)

Let n = the number; $0.5n - 9 = 4n + 5$; -4

8. The table shows ticket prices for the local minor league baseball team for fan club members and non-members. For how many tickets is the cost the same for club members and non-members? (Example 3)

10 tickets

	Ticket Prices	
	Club Members	Non-Club Members
Membership Fee (one-time)	$30	none
Ticket Price	$3	$6

9. **MP** **Multiple Representations** Refer to the square at the right.

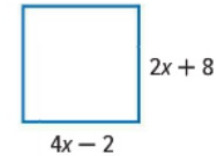a. **Words** Explain a method you could use to find the value of x.

   Sample answer: Set the side lengths equal to each other and solve

   for x.

b. **Symbols** Write an equation to find the side length of the square.

   $4x - 2 = 2x + 8$

c. **Algebra** What is the side length of the square?

   18 units

$2x + 8$

$4x - 2$

H.O.T. Problems Higher Order Thinking

10. **MP** **Find the Error** Alma is solving the equation $4a - 5 = 2a - 3$. Circle her mistake and correct it.
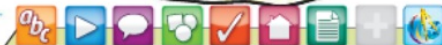
$$4a - 5 = 2a - 3$$

$$4a - 2a - 5 = 2a - 2a - 3$$

$$2a - 5 = -3$$
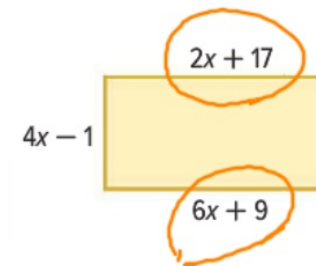
$$2a - 5 + 5 = -3 + 5$$

$$a = 1$$

$4a - 5 = 2a - 3$
$4a - 2a - 5 = \textcircled{3}$
$2a - 5 = 3$
$2a = 8$

11. **MP** **Model with Mathematics** Write a real-world problem that can be solved using the equation $5x = 3x + 20$. **Sample answer: You have 20 crafts made and continue to make crafts at the rate of 3 per hour. How many hours will it take you and your friend to make the same amount of crafts, if she makes crafts at a rate of 5 per hour.**

12. **MP** **Persevere with Problems** Find the area of the rectangle at the right. **147 units^2**

$$2x + 17 = 6x + 9$$

$2x + 17$

$4x - 1$

$6x + 9$

13. **MP** **Model with Mathematics** Write two equations so that each have variables on both sides and a solution of $\frac{1}{2}$. **Sample answer: $3x + 6 = x + 7$, $1 - n = 3n - 1$**