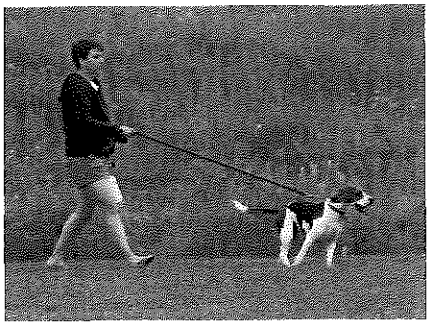
5. 4 Pampering and Feeding Time

A Practice Understanding Task



Carlos and Clarita have been worried about space and start-up costs for their pet sitters business, but they realize they also have a limit on the amount of time they have for taking care of the animals they board. To keep things fair, they have agreed on the following time constraints.

- *Feeding Time*: Carlos and Clarita estimate that cats will require 6 minutes twice a day—morning and evening—to feed and clean their litter boxes, for a total of 12 minutes per day for each cat. Dogs will require 10 minutes twice a day to feed and walk, for a total of 20 minutes per day for each dog. Carlos can spend up to 8 hours each day for the morning and evening feedings, but needs the middle of the day off for baseball practice and games.

- *Pampering Time*: The twins plan to spend 16 minutes each day brushing and petting each cat, and 20 minutes each day bathing or playing with each dog. Clarita needs time off in the morning for swim team and evening for her art class, but she can spend up to 8 hours during the middle of the day to pamper and play with the pets.

Write inequalities for each of these additional time constraints. Shade the solution set for each constraint on separate coordinate grids.

5.4

READY, SET, GO! **Name** **Period** **Date**

READY

Topic: Writing linear equations in standard form and slope-intercept form.

Rewrite the given equation so that they are in slope-intercept form. $(y = mx + b)$

1. $7x - 14y = -56$
2. $-8x - 2y = 6$
3. $15x + 9y = 45$

Rewrite the given equations so that they are in standard form.
(Ax + By = C, where A, B, and C are whole numbers and A is positive.)

4. $y = 7x - 3$
5. $y = 2x + 9$
6. $y = -4x - 11$
7. $y = \frac{1}{2}x + 8$
8. $y = \frac{3}{5}x - 2$
9. $y = -\frac{1}{6}x + \frac{2}{3}$

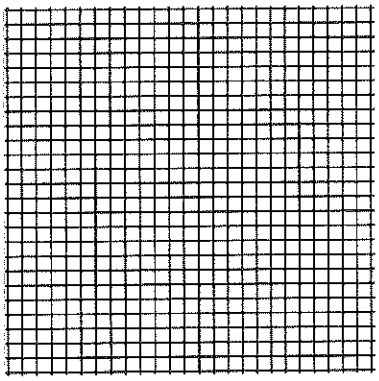
SET

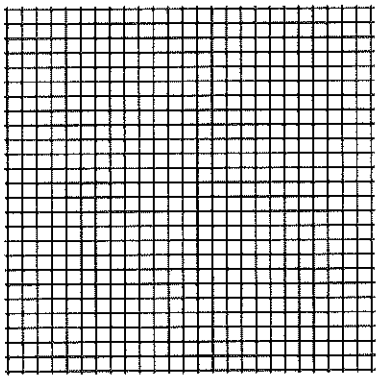
Topic: Writing inequalities from a real world problem. Graphing inequalities.

10. On a final for a creative writing course, Ben was required to write a combination of at least 10 poems or paragraphs. Ben knew that each poem would take him 30 minutes to write while a paragraph would only take 10 minutes. Ben was given two hours to complete the exam.

    a. Write an inequality to model each constraint. (Hint: One constraint is time and the other is the number of needed items. Let x be the number of poems written and y be the number of paragraphs written.)

    b. Graph each inequality on a separate coordinate grid and shade the solution set for each.





mathematics vision project

GO

Topic: Substituting a value to check if it's a solution

Determine whether $h = 3$ is a solution to each problem.

11. $3(h - 4) = -3$

12. $3h = 2(h + 2) - 1$

13. $2h - 3 = h + 6$

14. $3h > -3$

15. $\frac{3}{5} \leq h \times \frac{1}{5}$

16. $\frac{3}{5} > h \times \frac{1}{6}$

Determine the value of x that makes each equation true.

17. $4x - 2 = 8$

18. $3(x + 5) = 20$

19. $2x + 3 = 2x - 5$

20. $4(6x - 1) = 3(8x + 5) - 19$