

Solving Problems with Equations: Classwork

Answer the following on your POD paper.

- An alien lizard has landed on Earth and plans to take over the planet! He has already used his laser gun to disintegrate 37 people. He plans to disintegrate 7 more people each day.
 - Write an equation for the number of people disintegrated p for any number of days d .
 - How many people will be disintegrated in 50 days?
Use your equation to show how you know. Show your work.
 - How many days until 450 people are disintegrated?
Use your equation to show how you know. Show your work.



- The alien lizard has given up his plan, so he takes his space ship and flies off. His ship uses 2 gallons of fuel per minute. He started with 75 gallons of fuel in his ship.
 - Write an equation for the amount of fuel left in his ship f after any number of minutes m .
 - How much fuel will he have left in 7 minutes?
Use your equation to show how you know. Show your work.
 - In how many minutes will he have only 13 gallons of fuel left?
Use your equation to show how you know. Show your work.
- The radiation from the lizard's ship has mutated a bunny! He started off 23 inches tall, but he is growing at a rate of $\frac{3}{4}$ of an inch per second.
 - Write an equation for the height of the bunny h after any number of seconds s .
 - How tall will the bunny be in 60 seconds?
Use your equation to show how you know. Show your work.
 - In how many seconds will the bunny be 170 inches tall?
Use your equation to show how you know. Show your work.
- The giant bunny is starting to crush the country as he walks! He has already crushed 4 cities, and as he walks he is crushing $\frac{2}{3}$ of a city each hour.
 - Write an equation for the number of crushed cities c after any number of hours h .
 - How many cities will be crushed in 12 hours?
Use your equation to show how you know. Show your work.
 - How long until the bunny has crushed 30 cities?
Use your equation to show how you know. Show your work.



- To destroy the giant bunny, the military is planning to use helicopters to dump toxic waste on it! The military has 27 tons of toxic waste. Each helicopter can hold $\frac{4}{5}$ of a ton of toxic waste.
 - Write an equation for the amount of toxic waste they have left t after any number of helicopters h attack the bunny.
 - How much toxic waste will they have left after 10 helicopters attack the bunny?
Use your equation to show how you know. Show your work.
 - How many helicopters have attacked if the military has only 3 tons of toxic waste left?
Use your equation to show how you know. Show your work.
- Time to get creative!** Make up your own story problem that could be solved by...
 - substituting 17 for x in the equation $y = 6x + 73$
 - substituting 60 for y in the equation $y = 7x + 18$
 - substituting 8 for x in the equation $y = 90 - 6x$
 - substituting 60 for y in the equation $y = \frac{3}{4}x + 18$
 - substituting 24 for x in the equation $y = 55 - \frac{3}{8}x$



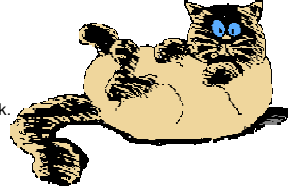
Solving Problems with Equations: Homework

7. The toxic waste had a strange effect on a kitten. The kitten is now growing at a rate of 4 pounds per minute. The kitten started out weighing just 3 pounds!

a. Write an equation for the weight of the kitten w after any number of minutes m .

b. What will the kitten weigh in 15 minutes?

Use your equation to show how you know. Show your work.



c. How long until the kitten weighs 259 pounds?

Use your equation to show how you know. Show your work.

8. Animal control is trying to take down the big kitten! It has 400 tranquilizer darts, and is shooting them at the kitten. They decide to shoot 7 darts per second until the kitten is sedated!

a. Write an equation for the number of darts they have left d after any number of seconds s .

b. How many darts will they have left in 25 seconds?

Use your equation to show how you know. Show your work.

c. How long until they have only 64 darts left?

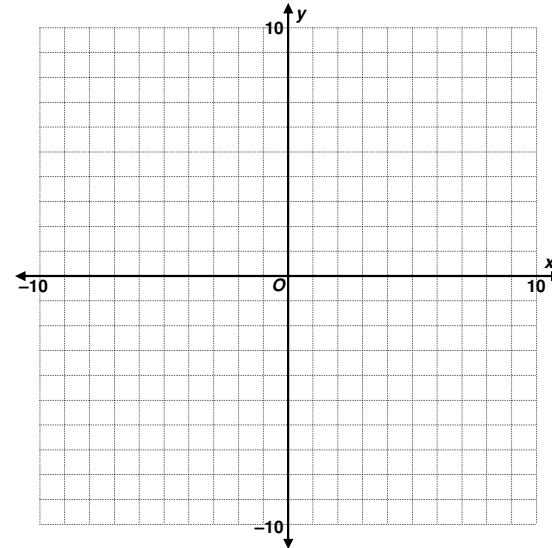
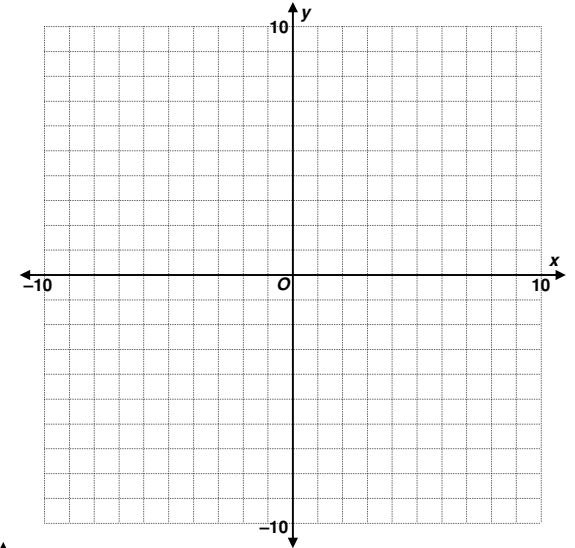
Use your equation to show how you know. Show your work.

9. Graph each of the following linear equations. Continue the pattern all the way across the grid. Use a straight edge and put arrows on the ends to show that the lines extend in both directions forever.

a. $y = \frac{1}{5}x + 2$

b. $y = 4x - 5$

c. $y = 7$



d. $y = -4 - \frac{3}{2}x$

e. $y = 5 - 3x$

f. $x = -7$