5.1 HW #2

READY, SET, GO!	Name	Period	#

READY

Topic: Comparing rates of change in linear situations.

State which situation has the greatest rate of change

1. The amount of stretch in a short bungee cord stretches 6 inches when stretched by a 3 pound weight. A slinky stretches 3 feet when stretched by a 1 pound weight.

2. A sunflower that grows 2 inches every day or an amaryllis that grows 18 inches in one week.

3. Pumping 25 gallons of gas into a truck in 3 minutes or filling a bathtub with 40 gallons of water in 5 minutes.

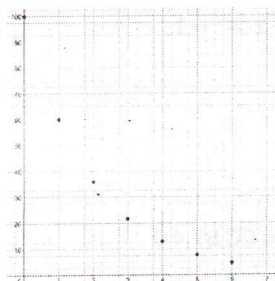4. Riding a bike 10 miles in 1 hour or jogging 3 miles in 24 minutes.

SET

Topic: Discrete and continuous relationships

Identify whether the following items best fit with a _discrete_ or a _continuous_ model. Then determine whether it is a _linear_ (arithmetic) or _exponential_ (geometric) relationship that is being described.

5. The freeway construction crew pours 300 ft of concrete in a day.

6. For every hour that passes, the amount of area infected by the bacteria doubles.

7. To meet the demands placed on them the brick layers have started laying 5% more bricks each day.

8. The average person takes 10,000 steps in a day.

9. The city of Buenos Aires has been adding 8% to its population every year.

10. At the headwaters of the Mississippi River the water flows at a surface rate of 1.2 miles per hour.

11. a. $f(n) = f(n-1) + 3; f(1) = 5$ b.   c. $g(x) = 2^x(7)$

GO

Topic: Solving one-step equations

Solve the following equations. Remember that what you do to one side of the equation must also be done to the other side. (*Show your work, even if you can do these in your head.*)

Example: Solve for x . $1x + 7 = 23$ *Add -7 to both sides of the equation.*

$$1x + 7 = 23$$
$$-7 = -7$$
$$\overline{1x + 0 = 16}$$
$$\textit{Therefore } 1x = 16$$

Example: Solve for x. $9x = 63$ *Multiply both sides of the equation by $\frac{1}{9}$.*

$$9x = 63$$
$$\left(\frac{1}{9}\right)9x = \left(\frac{1}{9}\right)63$$
$$\left(\frac{9}{9}\right)x = \frac{63}{9}$$
$$1x = 7$$

Note that multiplying by $\frac{1}{9}$ gives the same result as dividing everything by 9.

11. $1x + 16 = 36$ 12. $1x - 13 = 10$ 13. $1x - 8 = -3$

14. $8x = 56$ 15. $-11x = 88$ 16. $425x = 850$

17. $\frac{1}{6}x = 10$ 18. $-\frac{4}{7}x = -1$ 19. $\frac{3}{4}x = -9$

MVP mathematics
vision project