

Consumer Math

Unit 5

12. Joan has 50/100 BI liability insurance. She gets into an accident with a bus, causing injury to 28 people, and each person is awarded \$10,000 as a result of a lawsuit. How much will:

The insurance company pay each person: 10,000

The insurance company pay total: 100,000 280,000

Joan pay (total): 180,000

13. You buy a car for \$32,000. Two years later, it is worth \$24,000.

a) What is its rate of depreciation?  $(0, 32,000) + (2, 24,000)$

$$\frac{24000 - 32000}{2 - 0} = \frac{-8000}{2} = -4000$$

b) What is the depreciation equation?

$$y = -4000x + 32,000$$

c) Use your depreciation equation to determine the car's worth in 5 years.

$$y = -4000(5) + 32,000$$

$$y = \$12,000$$

14. You buy a car for \$19,000. Three years later, it is worth \$12,000.

a) What is its rate of depreciation?  $(0, 19,000) + (3, 12,000)$

$$\frac{12000 - 19000}{3 - 0} = -2333.\bar{3}$$

b) What is the depreciation equation?

$$y = -2333.33x + 19000$$

c) Use your depreciation equation to determine the car's worth in 5 years.

$$\$7333.35$$

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15. The straight line depreciation equation for a car is  $y = -3400x + 85,000$ .

a) What is the original price of the car?

85,000

b) How much value does the car lose per year?

\$ 3400

c) How much is the car worth after 3 years?

\$ 74,800

16. The straight line depreciation equation for a car is  $y = -2680x + 26,800$ .

a) What is the original price of the car?

26,800

b) How much value does the car lose per year?

2680

c) How much is the car worth after 4 years?

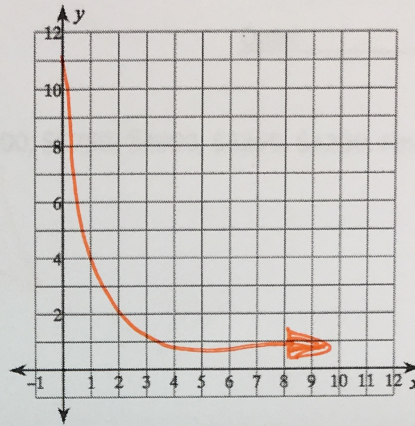
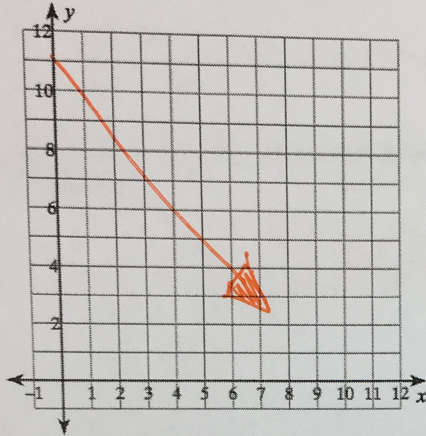
\$ 16,080

17. The exponential depreciation equation for a car is  $y = 26,600 \times 0.945^x$ . What is the car worth after 3 months?

22447.97

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18. What does the graph of a straight line depreciation graph look like vs an exponential depreciation graph?



19. A car is traveling at 74 mph when a deer jumps in front.

a) What is the approximate reaction distance?

$$74 = ft$$

b) What is the approximate braking distance?

$$D = \frac{74^2}{20} = 273.8 \text{ ft}$$

c) What is the approximate stopping distance?

$$74 + 273.8 = 347.8 \text{ ft}$$

20. Toni's car is traveling at 75 km/h when she notices a family of ducks crossing the road ahead of her. Will she be able to stop before she reaches the ducks?

$$75 + \frac{75^2}{20}$$

$$75 + 281.25 = 356.25 \text{ ft} \quad \text{YES } \textcircled{\smile}$$