

MATH 244/GRACEY
1.1-1.2 PRACTICE

Name _____

Solve.

1) $8x + 9 = 0$

6) $f(x) = 3x - 12$

2) $2(x + 4) = 4 - 4(x + 4)$

7) $f(x) = 5 + 11x$

3) $3(7x + 6) = 2(x + 6)$

Solve.

8) $|x| = 2$

4) $3(2x + 1) = 9 - 5(2x - 3)$

9) $|x| = -0.15$

Find the zeros of each linear function.

5) $f(x) = -x + 5$

10) $|b + 2| - 6 = 3$

11) $|7m + 8| = 9$

12) $\left| \frac{1}{4}x - 7 \right| = 2$

13) A shipping company has determined that their drivers in Montana on average travel 85 miles on a single delivery route for mail order products. This is five times the distance of an average route for their drivers in New Jersey. How far, on average, is the route in New Jersey?

14) On average, 12.4 % of the money consumers spend in supermarkets in England goes to the purchase of snacks and baked goods, which is four times the percent of money spent on cereals and rice. What percentage of the money spent by consumers in England's supermarkets is for the purchase of cereal and rice?

15) Last year, 310 million music CDs were purchased by 112 million households in the United States. On average, how many CDs were purchased in each household?

16) A guitar manufacturer spent \$75 million on the production of acoustic and electric guitars in 1999. If the amount the company spent producing acoustic guitars was \$65 million more than it spent on producing electric guitars, how much in fact did the company spend producing electric guitars?

17) A survey of 7673 first-time vacationers showed that 60% more vacationers took their vacation in their own country rather than travel abroad. How many vacationers in the sample took their vacation abroad?

Solve for the indicated variable.

18) $S = 2\pi rh + 2\pi r^2$ for h

19) $I = \frac{nE}{nr + R}$ for n

20) $P = s_1 + s_2 + s_3$ for s_2

21) $A = P(1 + nr)$ for r

Solve.

22) $\frac{1}{A} = \frac{1}{B} + \frac{1}{C}$, for A

23) $Z = A(1 + x)^{1/4}$, for x

24) A construction company builds a swimming pool with a perimeter of 46 m. The length is 7 m more than the width. Find the dimensions of the swimming pool?

25) In triangle ABC , the angle C is six times as large as angle A . The measure of angle B is 36° greater than that of angle A . Find the measure of the angles.

26) The number of enrollees in health maintenance organizations (HMOs) in Illinois in a recent year was 2,419,945. This was a 44.1% increase over the previous year. What was the former number of enrollees?

27) The speed of a freight train is 23 mph slower than that of a passenger train. The freight train travels 250 mi in the same time it takes the passenger train to travel 450 mi. Find the speed of the passenger train.

28) On a recent trip, Sarah's car traveled 20 mph faster on the first 120 miles than it did on the remaining 80 miles. The total time for the trip was 4 hr. Find the speed of Sarah's car on the first part of the trip.

29) An airplane leaves Los Angeles for Denver at a speed of 420 mph. Thirty minutes later, a plane going from Denver to Los Angeles leaves Denver, which is 850 miles from Los Angeles, at a speed of 520 mph. When they meet, how far are they from Denver?

Answer Key

Testname: 1.1-1.2

1) $-\frac{9}{8}$

2) $-\frac{10}{3}$

3) $-\frac{6}{19}$

4) $\frac{21}{16}$

5) 5

6) 4

7) $-\frac{5}{11}$

8) -2, 2

9) \emptyset

10) -11, 7

11) $-\frac{17}{7}, \frac{1}{7}$

12) 20, 36

13) 17 miles

14) 3.1%

15) 2.8

16) \$5 million

17) 3069

18) $h = \frac{S - 2\pi r^2}{2\pi r}$

19) $n = \frac{-IR}{Ir - E}$

20) $s_2 = P - s_1 - s_3$

21) $r = \frac{A - P}{Pn}$

22) $\frac{BC}{B + C}$

23) $\left(\frac{Z}{A}\right)^4 - 1$

24) 15 m \times 8 m

25) 18° , 54° and 108°

26) 1,679,351

27) 52 mph

28) 60 mph

29) 354 miles