Math 1010 - Intermediate Algebra

Chapters 2 - 5 Review

Please Do Not Write on this worksheet! Place all of your answers on the answer sheet provided! If you do not finish in class, you will neet to print the worksheet from our website under handouts!

Solve the problem.

1) The life expectancy of inhabitants of a country can be approximated by the equation y = 0.309x - 349, where x is a year between 1940 and 2006 and y is age in years. Use this mathematical model to approximate life expectancy (to the nearest tenth of a year) in 1957.

Solve the equation.

2) $3(x + 2) - (3x + 6) = 0$

3) $10p + 4 = -3 + 7p + 1p$

4) $\frac{1}{3}(r + 6) = \frac{1}{6}(r + 8)$

5) $-(4y + 8) - (-3y - 5) = -1$

Solve the problem.

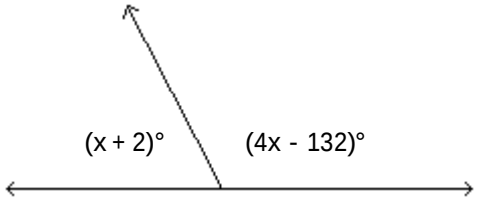
6) Find the measure of an angle if its supplement measures 150° less than 4 times its complement.

7) Find the measure of an angle such that the sum of the measures of its complement and its supplement is 132°.

8) If three times the smaller of two consecutive integers is added to four times the larger, the result is 116. Find the smaller integer.

Find the measure of each marked angle.

9)



Solve the equation.

10) $\frac{y}{4} = \frac{4}{8}$

11) $\frac{x + 12}{4} = \frac{x + 5}{3}$

Solve the problem.

12) The ratio of the lengths of strings that play the notes D and B is 27 to 16. If a string 32 cm long plays a B, what is the length of the string that plays a D?

13) Walt made an extra $7000 last year from a part-time job. He invested part of the money at 7% and the rest at 9%. He made a total of $570 in interest. How much was invested at 9%?

14) Derek is four times as old as Sarah. Three years ago the sum of their ages was 44. How old is each now?

Graph the linear equation.

15) $6x = y - 1$

Find the slope of the line going through the given pair of points.

16) (-6, 4) and (-5, -9)

Find the slope of the line.

17) $2x - 3y = 16$

18) $y = 8$

19) $x = -10$

Determine whether the graphs of the equations are parallel lines, perpendicular lines, or neither.

20) $12x + 4y = 16$
$15x + 5y = 23$

Write an equation of the line through the given point with the given slope. Write the equation in slope-intercept form.

21) (5, 5); $m = -3$

Write the slope-intercept form of the equation for the line passing through the given pair of points.

22) (2, -7) and (0, -2)

Simplify the expression.

23) $\left(\frac{pm^6}{q^7}\right)^5$ $(q \neq 0)$

24) $(-4x^2y)^3$

Perform the division.

25) $(6m^2 + 37m - 35) \div (m + 7)$

Factor completely. If the polynomial is prime, say so.

26) $18m^2 - 21m + 5$

27) $x^2 + 4$

28) $2k^3 - 54$

Solve the equation.

29) $y^3 = 36y$

30) $x(x - 22) = -121$