Practice Final

① Simplify $-3x(2x+4) - 4x + 8$

② Simplify each expression:

a) $y^3 \cdot y \cdot y^4 =$

b) $\dfrac{8y^5z^3}{6yz^7} =$

③ Solve for a:

$4a - 3b = c$

④ Solve for x:

$3x^2 - 2y = 8$

⑤ Factor: $x^2 - 5x - 24$

⑥ Factor: $14x^3y^2 - 21x^2y^5 + 28x^3y^3$

Solve for x:

7. $\frac{x}{2} = \frac{5}{4}$

8. $\frac{x-1}{8} = \frac{x+2}{6}$

9. Find the slope of a line given two points on the line: $(4,-1)$ & $(2,-9)$

10. Find the equation of the line in problem #9.

11. Convert 422 yards into inches.

12. Sketch a graph of a quadratic function that has a negative leading coefficent.

(13) Find the vertex of the parabola graphed using the equation $y = -4x^2 - 12x + 3$

(*) Solve the systems:

(14) $\begin{cases} y = 3x - 8 \\ y = 2x + 2 \end{cases}$

(15) $\begin{cases} y = -3x + 2 \\ 2x + 2y = 36 \end{cases}$

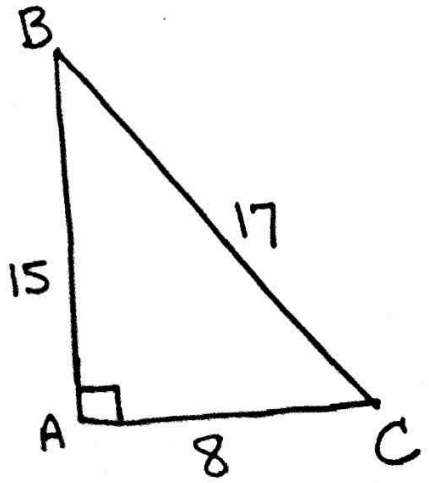
(16) $\begin{cases} -2x + 4y = 14 \\ 5x - 3y = -7 \end{cases}$

17 Solve: $x^2 + 4x - 32 = 0$

18 Solve: $8x^2 + 19x + 2 = 2x^2 - 8$

19 Solve using the Quadratic Formula: $3x^2 + 2x - 2 = 0$

20 Write each of the trig ratios given the triangle:

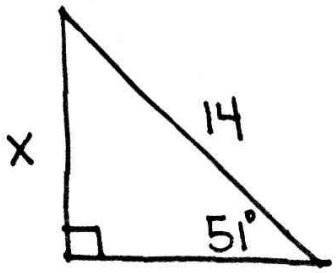


$\sin C =$ $\tan B =$

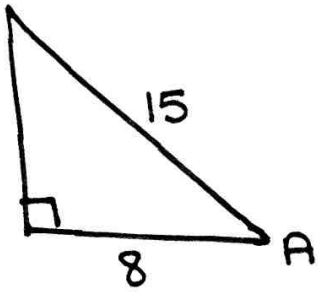
$\cos C =$ $\cot B =$

$\csc C =$ $\sec B =$

(21) Solve for x:

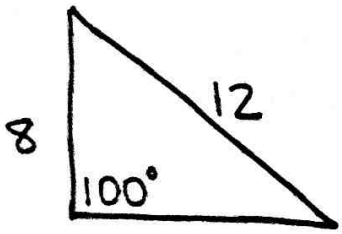


(22) Solve for m∡A:

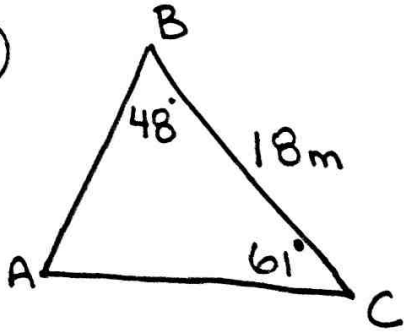


Find all the missing sides & angles in the two triangles.

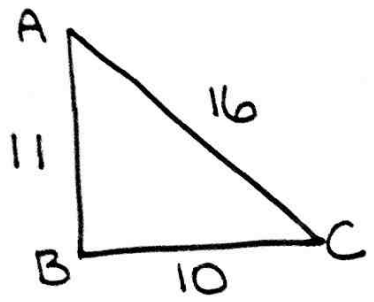
(23)



(24)



(15) Find the measure of $\measuredangle B$:



(26) Expand $\log_8 \frac{4x^3}{y^2}$

(27) Expand $\log_3 \frac{y^3}{5x^2}$

(28) Write as a single log:

$\log x + 3\log y - 5\log z$

(29) Solve: $2^{3x-1} = 80$ (Round to the nearest tenth)

(30) Solve: $\log_5(3x+2) = 4$

(31) If you started with \$1000.00 and were making 6% interest per year, how long would it take (rounded to the nearest year) in order to have a total of \$2000.00?