

1) Solve: $5 - 3(2x - 1) = 6 - 2x$

2) Solve: $2x + 5(x - 7) \geq 3x + 4$

3) Factor: $x^2 + 5x - 24$

4) Factor: $a^2 - 7a + 10$

5) Factor: $5x^2 - 6x + 1$

6) Factor: $6x^2 + 7x - 3$

7) Factor: $4x^2 - 6x - 40$

8) Multiply: $(x - 4)^2$

9) Multiply: $(7x + 2)^2$

10) Solve by factoring: $2x^2 + 3x - 35 = 0$

11) Solve by factoring: $x^2 - 28 = -3x$

12) Solve: $5x^2 - 2x - 1 = 0$
(what if it doesn't factor; how can we solve a quadratic?)

13) Solve for x in terms of y :

$$3y + 2x = -4$$

14) Solve for (x, y) :
$$\begin{cases} 3x - 5y = 8 \\ -3x + 2y = 1 \end{cases}$$

15) Solve for (x, y) : $\begin{cases} x + 2y = 3 \\ 2x + 3y = 3 \end{cases}$

16) Solve for (x, y) : $\begin{cases} 2x - 3(y + 1) = 8 \\ 3(x + 2) + 5y = -6 \end{cases}$

For #17 – 20 simplify each expression completely.

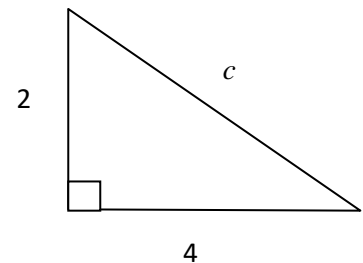
17) $\sqrt{24x^3y^8}$

18) $(5\sqrt{2})^2$

19) $(-2\sqrt{12})(5\sqrt{3})$

20) $\frac{\sqrt{18}}{\sqrt{15}}$

21) Use the Pythagorean Theorem ($a^2 + b^2 = c^2$) to solve for the missing hypotenuse in the right triangle shown.



Only check the answers when needed. Working backwards should be used on a limited basis. Bring this assignment scored in pen (not blue or black) out of 21 points possible.

Answers: 1) $x = \frac{1}{2}$ 2) $x \geq \frac{39}{4}$ 3) $(x + 8)(x - 3)$ 4) $(a - 5)(a - 2)$ 5) $(x - 1)(5x - 1)$

6) $(2x + 3)(3x - 1)$ 7) $2(2x + 5)(x - 4)$ 8) $x^2 - 8x + 16$ 9) $49x^2 + 28x + 4$

10) $-5; \frac{7}{2}$ 11) 4, -7 12) $x = \frac{1 \pm \sqrt{6}}{5}$ 13) $x = -\frac{3y}{2} - 2$ (or $\frac{-3y-4}{2}$) 14) $(-\frac{7}{3}, -3)$

15) (-3, 3) 16) (1, -3) 17) $2xy^4\sqrt{6x}$ 18) 50 19) -60 20) $\frac{\sqrt{30}}{5}$ 21) $2\sqrt{5}$