

Pearson (Publisher) Website gateway to MyLab



2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31

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$$4x^2 - 12x + 7 = 0 \Rightarrow$$

$$a = 4, b = -12, c = 7 \Rightarrow$$

discriminates.

$$b^2 - 4ac = \text{Discriminant}$$

$$= (-12)^2 - 4(4)(7)$$

$$= 144 - 112 = 32 \Rightarrow$$

$$\begin{array}{r} 2 \overline{)32} \\ 2 \overline{)16} \\ 2 \overline{)8} \\ 2 \overline{)4} \\ 2 \end{array}$$

$$32 = 16 \cdot 2$$

$$\sqrt{32} = \sqrt{16} \sqrt{2}$$

$$= 4\sqrt{2}$$

$$x = \frac{12 \pm \sqrt{32}}{2(4)} = \frac{12 \pm 4\sqrt{2}}{8}$$

$$= \frac{4(3 \pm 1\sqrt{2})}{8}$$

Run-on sentence.

$$\sqrt{2 \cdot 2 \cdot 2 \cdot 2 \cdot 2}$$

$$2 \cdot 2 \sqrt{2} = 4\sqrt{2}$$

$$= \frac{3 \pm \sqrt{2}}{2} = x$$

Shared Work:

Let x = the amount of time it takes
the two to finish together (hrs)
= how long John spent working.

John can do it in 7 hrs

$$\frac{1}{5} + \frac{1}{7} = \frac{1}{x}$$

Jane 5 hrs

$$\frac{1}{7}x + \frac{1}{5}x = 1 \text{ job done}$$

$$\frac{x}{7} + \frac{x}{5} = \frac{1}{1}$$

$$\frac{x}{7} \cdot \frac{5}{5} + \frac{x}{5} \cdot \frac{7}{7} = \frac{1}{1} \cdot \frac{35}{35}$$

$$\frac{5x}{LCD} + \frac{7x}{LCD} = \frac{35}{LCD}$$

$$5x + 7x = 35$$

$$12x = 35 \text{ must}$$

$$\frac{12x}{12} = \frac{35}{12} \text{ optional}$$

$$x = \frac{35}{12} \text{ must}$$

$$LCD: 7 \cdot 5 = 35.$$

I shy away from clearing fractions, because it doesn't work for

$$\frac{5}{x+1} - \frac{7}{x-5} < 5$$

Throw away LCD.

You WON'T BE ABLE to, when "<" or ">" is involved.

SIDE COMMENTS RELATED TO PROBLEM ON PREVIOUS PAGE

Shared Work Equation is ALL about what gets done in 1 hr.

↳ how much of the job.

$$\frac{1}{5} \frac{\text{job done}}{\cancel{1 \text{ hr}}} * X \cancel{\text{ hrs}}$$

I can do it ALL in 5 hrs!

↳ is how much of the job I did!
↳ what fraction

$$\frac{1}{7} x + \frac{1}{5} x = 1 \text{ job done}$$

→ what if John's an hour late?

If $x =$ how long John worked? ^{hrs}

$$\frac{1}{7} x + \frac{1}{5} (x+1) = 1$$

If $x =$ how long Jane works? ^{hrs}

$$\frac{1}{7} (x-1) + \frac{1}{5} x = 1$$

Solve $x^2 - 8x - 19 = 0$ by completing the square.

$$x^2 - 8x = 19$$

$$\frac{b}{2} = 4 \rightarrow 4^2 = 16$$

$$x^2 - 8x + 4^2 = 19 + 16$$

$$(x - 4)^2 = 35$$

$$\sqrt{(x - 4)^2} = \sqrt{35}$$

$$|x - 4| = \sqrt{35}$$

$$x - 4 = \pm \sqrt{35}$$

$$x = 4 \pm \sqrt{35}$$

$$\frac{+16}{-19}$$

$$(x + b)^2 =$$

$$(x + b)(x + b) =$$

$$x^2 + bx + bx + b^2$$

$$x^2 + 2bx + b^2$$

$$\frac{2b}{2} = b$$

$$\left(\frac{2b}{2}\right)^2$$