

Creating Equations Worksheet

Solve each question. Round your answer to the nearest hundredth.

- 1) Pranav can pick forty bushels of apples in 15 hours. Shreya can pick the same amount in 10 hours. If they worked together how long would it take them?
- 2) Molly can harvest a field in 13 hours. Amanda can harvest the same field in 14 hours. Find how long it would take them if they worked together.
- 3) Kathryn can clean an attic in 9 hours. Beth can clean the same attic in 13 hours. How long would it take them if they worked together?
- 4) Pranav can dig a 10 ft by 10 ft hole in ten hours. One day his friend Shanice helped him and it only took 4.74 hours. How long would it take Shanice to do it alone?
- 5) Working alone, Jack can tar a roof in 16 hours. One day his friend Joe helped him and it only took 7.17 hours. How long would it take Joe to do it alone?
- 6) Working together, Amanda and Arjun can dig a 10 ft by 10 ft hole in 4.24 hours. Had he done it alone it would have taken Arjun nine hours. How long would it take Amanda to do it alone?
- 7) The average profit of a company (in millions per month) from 2001 to 2008 can be modeled by the equation $y = 4.5\sqrt{1.2x + 1.85}$ where x is the number of years since 2000. In what year will the profit be 16 million?
- 8) The number of eggs sold in a supermarket each day can be modeled by the equation $y = 4500\sqrt{0.5x + 2}$ where x is the number of days past since Monday. On what day will 9000 eggs be sold?
- 9) The number of bacteria in a swimming pool after disinfection can be modeled by the equation $y = 5500\sqrt{0.025x + 0.1}$ where x is the number of minutes past. At what time are there 3000 bacteria left in the swimming pool?
- 10) The average amount of sewage discharged by a manufactory (in tons per month) from 2001 to 2010 can be modeled by the equation $y = 235\sqrt{2x + 0.75}$ where x is the number of years since 2000. In what year was about 610 tons of water discharged per month?

Answers to Creating Equations Worksheet

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|----------------|---------------|---------------|---------------|
| 1) 6 hours | 2) 6.74 hours | 3) 5.32 hours | 4) 9.01 hours |
| 5) 12.99 hours | 6) 8.02 hours | 7) 2009 | 8) Friday |
| 9) 8 seconds | 10) 2003 | | |