Work Word Problems

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

1) Working alone, Ryan can dig a 10 ft by 10 ft hole in five hours. Castel can dig the same hole in six hours. How long would it take them if they worked together?

\[ \frac{1}{5} + \frac{1}{6} = \frac{1}{x} \]

Time = \( \frac{21}{11} \) hrs

2) Shawna can pour a large concrete driveway in six hours. Dan can pour the same driveway in seven hours. Find how long it would take them if they worked together.

\[ \frac{1}{6} + \frac{1}{7} = \frac{1}{x} \]

Time = \( \frac{3}{23} \) hrs

3) It takes Trevon ten hours to clean an attic. Cody can clean the same attic in seven hours. Find how long it would take them if they worked together.

Time = \( \frac{17}{7} \) hrs

4) Working alone, Carlos can oil the lanes in a bowling alley in five hours. Jenny can oil the same lanes in nine hours. If they worked together how long would it take them?

\[ \frac{9}{45}x + \frac{5}{45}x = \frac{45}{45} \]

Time = \( 3 \frac{1}{3} \) hrs

5) Working together, Paul and Daniel can pick forty bushels of apples in 4.95 hours. Had he done it alone it would have taken Daniel 9 hours. Find how long it would take Paul to do it alone.

Time = 11 hours

6) Working together, Jenny and Natalie can mop a warehouse in 5.14 hours. Had she done it alone it would have taken Natalie 12 hours. How long would it take Jenny to do it alone?

Time = 8.99 hrs
7) Rob can tar a roof in nine hours. One day his friend Kayla helped him and it only took 4.74 hours. How long would it take Kayla to do it alone?

\[ \frac{1}{9} + \frac{1}{x} = \frac{1}{4.74} \]

\[ 4.74x + 9x = 42.66x \]

\[ x = 10 \frac{4}{7} \text{ hr} \]

10.01 hours

8) Working alone, it takes Kristin 11 hours to harvest a field. Kayla can harvest the same field in 16 hours. Find how long it would take them if they worked together.

\[ \frac{1}{11} + \frac{1}{16} = \frac{1}{x} \]

\[ 11x + 16x = 176 \]

\[ 27x = 176 \]

\[ x = 6 \frac{14}{27} \text{ hrs} \]

6.52 hours

9) Krystal can wax a floor in 16 minutes. One day her friend Perry helped her and it only took 5.76 minutes. How long would it take Perry to do it alone?

\[ \frac{1}{16} + \frac{1}{x} = \frac{1}{5.76} \]

\[ 5.76x + 16x = 92.16x \]

\[ 5.76x + 92.16 = 16x \]

\[ 10.24x = 92.16 \]

\[ x = 9 \text{ minutes} \]

9 minutes

10) Working alone, Dan can sweep a porch in 15 minutes. Alberto can sweep the same porch in 11 minutes. If they worked together how long would it take them?

\[ \frac{1}{15} + \frac{1}{11} = \frac{1}{x} \]

\[ 15x + 11x = 165 \]

\[ 26x = 165 \]

\[ x = 6 \frac{9}{26} \text{ minutes} \]

6.35 minutes

11) Ryan can paint a fence in ten hours. Asanji can paint the same fence in eight hours. If they worked together how long would it take them?

\[ \frac{1}{10} + \frac{1}{8} = \frac{1}{x} \]

\[ 4x + 5x = 40 \]

\[ 9x = 40 \]

\[ x = 4 \frac{4}{9} \text{ hrs} \]

4.44 hours

12) Working alone, it takes Asanji eight hours to dig a 10 ft by 10 ft hole. Brenda can dig the same hole in nine hours. How long would it take them if they worked together?

\[ \frac{1}{8} + \frac{1}{9} = \frac{1}{x} \]

\[ \frac{9x + 8x}{72x} = \frac{17x}{72x} \]

\[ 17x = \frac{72}{x} \]

\[ x = 4 \frac{4}{17} \text{ hrs} \]

4.24 hours

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