

Watch. Practice. Understand. | Lesson 096

Algebra II Rational Function Word Problems Review

Watch the matching video: https://www.youtube.com/watch?v=ISUi5GAh__s

Practice focus: Rational word problems

Original extra practice matched to the listed lesson topic.

Name: _____ Date: _____ Show your reasoning and check units.

01 One machine completes a job in 6 h, another in 3 h. Find their joint time.

02 A 120-mile trip takes 1 hour less at 60 mph than at an unknown slower speed. Find the slower speed.

03 A \$240 rental is split equally. Four extra students would reduce each share by \$5. Find the original group size.

04 A faucet fills a tank in 4 h; a drain empties it in 12 h. Find the fill time with both open at constant rates.

Worked answers | Lesson 096

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- 01** One machine completes a job in 6 h, another in 3 h. Find their joint time.

$t/6 + t/3 = 1$ gives $t/2 = 1$, so $t = 2$ hours.

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- 02** A 120-mile trip takes 1 hour less at 60 mph than at an unknown slower speed. Find the slower speed.

$120/v - 120/60 = 1$ gives $120/v = 3$, so $v = 40$ mph.

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- 03** A \$240 rental is split equally. Four extra students would reduce each share by \$5. Find the original group size.

$240/n - 240/(n + 4) = 5$ gives $n^2 + 4n - 192 = 0$. Reject -16; $n = 12$.

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- 04** A faucet fills a tank in 4 h; a drain empties it in 12 h. Find the fill time with both open at constant rates.

Net rate $1/4 - 1/12 = 1/6$ tank/h, so filling takes 6 h.