

December 2, 2015
 * Final Exam - Monday
 * all exams (3) December 7th
 @ 12:40pm - 2:40pm
 * all quizzes (6) in 320

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#2) $\frac{d^2}{t^2} \div \frac{6d^4}{t^4}$

$$\frac{\cancel{d^2}}{\cancel{t^2}} \cdot \frac{\cancel{t^4}^2}{6d^4} = \frac{t^2}{6d^2}$$

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#6) $x = 7 + \frac{44}{x}$ LCD: x

$$x(x) = x(7) + \cancel{x}\left(\frac{44}{x}\right)$$

$$x^2 = 7x + 44$$

$$\boxed{x^2 - 7x - 44 = 0}$$

$$(x - 11)(x + 4) = 0$$

① $x - 11 = 0$
 $\boxed{x = 11}$

② $x + 4 = 0$
 $\boxed{x = -4}$

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$$\frac{1}{3x^2} = \frac{x+3}{2x^2} - \frac{1}{6x^2}$$
 LCD: $6x^2$

$$\cancel{6x^2} \left(\frac{1}{\cancel{3x^2}} \right) = \cancel{6x^2} \left(\frac{x+3}{\cancel{2x^2}} \right) + \cancel{6x^2} \left(-\frac{1}{\cancel{6x^2}} \right)$$

$$2 = 3x + 9 - 1$$

$$2 = 3x + 8$$

$$\frac{-6}{3} = \frac{3x}{3}$$

$$\boxed{-2 = x}$$

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$$\frac{2x - 8x^3}{2x(1 - 4x^2)}$$

$$\boxed{2x(1 + 2x)(1 - 2x)}$$

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LCD: $72n^3d^2$

$$\frac{11}{18n^2d} + \frac{5}{24n^3d}$$

$$\frac{11(4n) + 5(3d)}{72n^3d^2}$$

$$\frac{44n + 15d}{72n^3d^2}$$

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$$\begin{aligned}
 \frac{40 - (3 \cdot 7 - 9)}{8 \cdot 2 - 2} &= \frac{40 - (21 - 9)}{16 - 2} \\
 &= \frac{40 - (12)}{14} \\
 &= \frac{40 - 12}{14} = \frac{28}{14} = \boxed{2}
 \end{aligned}$$

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$$\begin{aligned}
 \frac{x-4}{6x} + \frac{x^2-3x-10}{6x} &= \frac{x-1}{6} \quad \text{LCD: } 6x \\
 6x \left(\frac{x-4}{\cancel{6x}} \right) + 6x \left(\frac{x^2-3x-10}{\cancel{6x}} \right) &= 6x \left(\frac{x-1}{\cancel{6}} \right) \\
 \cancel{x} - 4 + \cancel{x}^2 - 3\cancel{x} - 10 &= \cancel{x}^2 - \cancel{x} \\
 -2x - 14 + \cancel{x}^2 &= \cancel{x}^2 - \cancel{x} \\
 + x &\quad -x^2 \quad -x^2 + x \\
 -x - 14 &= 0 \\
 +14 &\quad +14 \\
 -x &= 14 \\
 -1 &\quad -1 \\
 \boxed{x = -14}
 \end{aligned}$$

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