Math 120 Intermediate Algebra

Equations Reducible to Quadratic

Solve and check answers.

1) \( x^4 - 17x^2 + 16 = 0 \)
Let \( u = \)
Then \( u^2 = \)

2) \( r - 2\sqrt{r} - 6 = 0 \)
Let \( u = \)
Then \( u^2 = \)

3) \( (x^2 - 2)^2 - 12(x^2 - 2) + 20 = 0 \)
Let \( u = \)
Then \( u^2 = \)

4) (Practice Prob) \( 2x^{-2} - x^{-1} - 1 = 0 \)
Let \( u = \)
Then \( u^2 = \)

\( x = -2, 1 \)
5) \( w^{2/3} - 2w^{1/3} - 8 = 0 \)

Let \( u = \)

Then \( u^2 = \)

6) (Practice Prob) \( 9 \left( \frac{x+2}{x+3} \right)^2 - 6 \left( \frac{x+2}{x+3} \right) + 1 = 0 \)

Let \( u = \)

Then \( u^2 = \)

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Ex 7 Find all \( x \)-intercepts of each function.

\( f(x) = x^{1/2} - x^{1/4} - 6 \)

(Practice Prob) \( g(x) = \left( 3 + \sqrt{x} \right)^2 + 3 \left( 3 + \sqrt{x} \right) - 10 \)

\( x = -\frac{3}{2} \)

No \( x \)-intercepts; \( y \)-intercept: \((0, 8)\)