Solve rational equations and inequalities worksheet – Grade 12

Grade 12 · Mixed level · 20 questions · **Version X9788**

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1. Solve $\frac{-42}{x+7} = -3$.

   Answer: _____

2. Solve $\frac{42}{x+5} = 3$.

   Answer: _____

3. Solve $\frac{-3}{x+6} = 3$.

   Answer: _____

4. Solve $\frac{5}{x+7} = 5$.

   Answer: _____

5. Solve $\frac{x+5}{x+7} = 3$.

   Answer: _____

6. Solve $\frac{x+12}{x+8} = 3$.

   Answer: _____

7. Solve $\frac{x-34}{x+6} = -3$.

   Answer: _____

8. Solve $\frac{1}{x-6} = \frac{10}{x+3}$.

   Answer: _____

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9. Solve $x - \dfrac{40}{x} = -3$. Type both solutions, separated by a comma.

   Answer: _____

10. Solve $x + \dfrac{24}{x} = -10$. Type both solutions, separated by a comma.

    Answer: _____

11. Solve $\dfrac{3}{x} = \dfrac{7}{x+4}$.

    Answer: _____

12. Solve $x - \dfrac{42}{x} = 1$. Type both solutions, separated by a comma.

    Answer: _____

13. Solve $\dfrac{6}{x+6} = -\dfrac{6}{x+4}$.

    Answer: _____

14. Solve $\dfrac{6}{x-1} = -\dfrac{9}{x-6}$.

    Answer: _____

15. Solve $\dfrac{x+8}{x-2} \leq 0$.

    A. $x \leq -8$ or $x > 2$ **B.** $x < -8$ or $x > 2$ **C.** $-8 \leq x < 2$ **D.** $-8 < x < 2$

16. Solve $\dfrac{x+1}{x+8} < 0$.

    A. $-8 < x < -1$ **B.** $x < -8$ or $x \geq -1$ **C.** $x < -8$ or $x > -1$ **D.** $-8 < x \leq -1$

17. Solve $\dfrac{12}{x+3} \leq 4$.

    A. $-3 < x \leq 0$ **B.** $-3 < x < 0$ **C.** $x < -3$ or $x > 0$ **D.** $x < -3$ or $x \geq 0$

18. Solve $\dfrac{x+1}{x-3} > 0$.

    A. $x \leq -1$ or $x > 3$ **B.** $x < -1$ or $x > 3$ **C.** $-1 < x < 3$ **D.** $-1 \leq x < 3$

19. Solve $\dfrac{x-6}{x-5} \leq 0$.

    A. $5 < x < 6$ **B.** $x < 5$ or $x > 6$ **C.** $5 < x \leq 6$ **D.** $x < 5$ or $x \geq 6$

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20. Solve $\dfrac{2}{x+2} < 4$.

A. $x < -2$ or $x \geq -3/2$ **B.** $-2 < x \leq -3/2$ **C.** $x < -2$ or $x > -3/2$ **D.** $-2 < x < -3/2$

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Answer key · Version X9788

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1. **7**
2. **9**
3. **-7**
4. **-6**
5. **-8**
6. **-6**
7. **4**
8. **7**
9. **-8,5**
10. **-4,-6**
11. **3**
12. **-6,7**
13. **-5**
14. **3**
15. **C (−8 ≤ x < 2)**
16. **A (−8 < x < −1)**
17. **D (x < −3 or x ≥ 0)**
18. **B (x < −1 or x > 3)**
19. **C (5 < x ≤ 6)**
20. **C (x < −2 or x > −3/2)**

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