

Name _____

5-2 Lesson Master

Questions on SPUR Objectives

See Student Edition pages 339–343 for objectives.

SKILLS Objective A

In 1–3, write the expression in lowest terms.

1. $\frac{2n^2 + n - 3}{n^2 - 10n + 9}$ _____

2. $\frac{3h^3 + 6h^2 + 3h}{h^2 - 1}$ _____

3. $\frac{z + 2}{3z^2 + 5z - 2}$ _____

In 4–6, are the two expressions equivalent? Justify your answer.

4. $\frac{1}{\sqrt{2}}$ and $\frac{\sqrt{2}}{2}$ _____

5. $\frac{1}{\sqrt{3} + 1}$ and $\frac{\sqrt{3} + 1}{3}$ _____

6. $\frac{x + 2}{x}$ and $\frac{x^2 - 4}{x^2 - 2x}$ _____

PROPERTIES Objective G

In 7–9, is the function with the given equation a rational function?

Explain your answer.

7. $f(x) = 2x + 1$ _____

8. $g(x) = \frac{\sqrt{5}x^3 + 4}{x - 6}$ _____

9. $h(x) = \frac{\sqrt{5}x^3 + 4}{\cos x - 6}$ _____

In 10 and 11, determine the domain of the given identity.

10. $\frac{y^2 + 2y + 5}{y + 1} = y + 1 + \frac{4}{y + 1}$ _____

11. $\frac{w^3 + 5w^2 + 6w}{w^2 + w - 2} = \frac{w(w + 3)}{w - 1}$ _____

In 12 and 13, determine the domain of the function with the given equation.

12. $r(t) = \frac{t}{t^2 + 9t}$ _____

13. $s(p) = \frac{p^5 + 2p^2 + 13}{2p - \sqrt{2}}$ _____

In 14 and 15, identify the domain for the given expression.

14. the expression given in Question 1 _____

15. the answer to Question 1 _____