## Unit 4 Review

1. $2i$

2. $-2i\sqrt{5}$

3. $i\sqrt{\dfrac{2}{5}}$

4. $\dfrac{3}{5}i$

5. $9-3i$

6. $-2-2i$

7. $22+21i$

8. $-1$

9. $-i$

10. $1$

11. $-i$

12. $(x+8i)(x-8i)$

13. $(3x-4)(9x^2+12x+16)$

14. $(1+8y)(1-8y+64y^2)$

15. $(4x+1)^2$

16. $(7x-2)(x+2)(x-2)$

17. No

18. Remainder $= -7$

19. Quotient $= 5x^3+6$

20. $3x+9 + \dfrac{25x-7}{x^2-3x+2}$
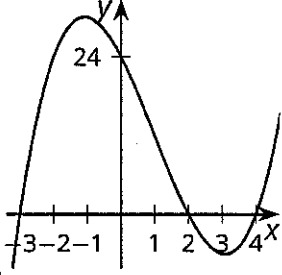
21. $2x+3 + \dfrac{-8x+10}{x^2+2x-1}$

Unit 4 Review - Problem Attic Questions

1.
Answer:      D
Objective:   2A.4.0
Points:      1

2.
Answer:      D
Points:      1

3.
Answer:      D
Objective:   2A.3.0
Points:      1

4.
Answer:      A
Points:      1

5.
Answer:      B
Points:      1

6.
Answer:      A
Points:      1

7.
Answer:      C
Points:      1

8.
Answer:      B
Objective:   3.12
Points:      1

9.
Answer:      B
Points:      1

10.
Answer:      C
Points:      1

11.
Answer:      A
Objective:   1.2.4
Points:      1

12.
Answer:      D
Objective:   III.A
Points:      1

13.
Answer:      B
Points:      1

14.
Answer:      B
Objective:   4.01
Points:      1

15.
Answer:      Example answer: $f(x)$ has a degree of 3 since the leading term is $4x^3$. As $x$ gets larger and larger in the positive direction, $f(x)$ gets larger and larger in the positive direction. As $x$ gets larger and larger in the negative direction, $f(x)$ gets larger and larger in the negative direction.
Points:      1

16.
Answer:      $p(x) = (x - 4)(x - 2)(x + 3)$;



Points:      1

17.
Answer:      **C**
Points:      1

18.
Answer:      Example answer: Because $(x + 9)$ is a factor, the remainder would have to be 0.
Points:      1

19.
Answer:      4,6
Points:      1

20.
Answer:      $(x + 5)$, $(x + 2)$, $(x - 1)$, $(x - 6)$
Points:      1