

Pre-Calculus 12 Chapter 7 Review

Answer Section

MULTIPLE CHOICE

1. ANS: C PTS: 1 DIF: Easy OBJ: Section 7.1
NAT: RF9 TOP: Characteristics of Exponential Functions
KEY: intercepts | exponential function
2. ANS: A PTS: 1 DIF: Average OBJ: Section 7.1
NAT: RF9 TOP: Characteristics of Exponential Functions
KEY: domain | range
3. ANS: A PTS: 1 DIF: Average OBJ: Section 7.1
NAT: RF9 TOP: Characteristics of Exponential Functions
KEY: equation | graph | exponential function
4. ANS: A PTS: 1 DIF: Average OBJ: Section 7.1
NAT: RF9 TOP: Characteristics of Exponential Functions
KEY: modelling | exponential decay
5. ANS: D PTS: 1 DIF: Easy OBJ: Section 7.2
NAT: RF9 TOP: Transformations of Exponential Functions
KEY: modelling | exponential growth
6. ANS: C PTS: 1 DIF: Average OBJ: Section 7.2
NAT: RF9 TOP: Transformations of Exponential Functions
KEY: modelling | exponential growth
7. ANS: A PTS: 1 DIF: Average OBJ: Section 7.1
NAT: RF9 TOP: Characteristics of Exponential Functions
KEY: exponential growth
8. ANS: D PTS: 1 DIF: Easy OBJ: Section 7.3
NAT: RF10 TOP: Solving Exponential Equations KEY: compound interest
9. ANS: D PTS: 1 DIF: Easy OBJ: Section 7.1
NAT: RF9 TOP: Characteristics of Exponential Functions
KEY: exponential function | negative exponents
10. ANS: A PTS: 1 DIF: Easy OBJ: Section 7.1 | Section 7.2
NAT: RF9
TOP: Characteristics of Exponential Functions | Transformations of Exponential Functions
KEY: increasing | decreasing | domain | range
11. ANS: A PTS: 1 DIF: Average OBJ: Section 7.2
NAT: RF9 TOP: Transformations of Exponential Functions
KEY: transformations of exponential functions
12. ANS: C PTS: 1 DIF: Difficult OBJ: Section 7.2
NAT: RF9 TOP: Transformations of Exponential Functions
KEY: transformations of exponential functions
13. ANS: B PTS: 1 DIF: Easy OBJ: Section 7.2
NAT: RF9 TOP: Transformations of Exponential Functions
KEY: transformations of exponential functions
14. ANS: A PTS: 1 DIF: Average OBJ: Section 7.2
NAT: RF9 TOP: Transformations of Exponential Functions
KEY: graph | transformations of exponential functions

15. ANS: D PTS: 1 DIF: Difficult OBJ: Section 7.3
 NAT: RF10 TOP: Solving Exponential Equations KEY: half-life | exponential decay

SHORT ANSWER

1. ANS:

$$x = 7$$

PTS: 1

2. ANS:

$$n = \frac{1}{2}$$

PTS: 1 DIF: Average OBJ: Section 7.3 NAT: RF10
 TOP: Solving Exponential Equations KEY: change of base

3. ANS:

$$x = -\frac{1}{2}, \quad x = 1$$

PTS: 1 DIF: Difficult OBJ: Section 7.3 NAT: RF10
 TOP: Solving Exponential Equations KEY: change of base | equate exponents

4. ANS:

$$x = \frac{35}{3}$$

PTS: 1 DIF: Average OBJ: Section 7.3 NAT: RF10
 TOP: Solving Exponential Equations KEY: exponential equation | change of base

5. ANS:

There will be 2.8 mg remaining after 3 weeks.

PTS: 1 DIF: Average OBJ: Section 7.2 | Section 7.3
 NAT: RF9 | RF10 TOP: Transformations of Exponential Functions | Solving Exponential Equations
 KEY: modelling | evaluate exponential functions

6. ANS:

The value of the investment after 5 years is \$27 906.10.

PTS: 1 DIF: Average OBJ: Section 7.3 NAT: RF10
 TOP: Solving Exponential Equations KEY: exponential equation | compound interest formula

7. ANS:

It will take 5.3×3 , or 15.9 years, for the amount of cobalt-60 to decay to 12.5% of its initial amount.

PTS: 1 DIF: Difficult OBJ: Section 7.1 | Section 7.3
NAT: RF9 | RF10 TOP: Characteristics of Exponential Functions | Solving Exponential Equations
KEY: modelling | exponential decay | change of base

8. ANS:

After approximately 11 years, the vehicle will be worth \$3000.

PTS: 1 DIF: Average OBJ: Section 7.3 NAT: RF10
TOP: Solving Exponential Equations KEY: modelling | exponential decay | systematic trial

9. ANS:

The time is approximately 56 s.

PTS: 1 DIF: Average OBJ: Section 7.3 NAT: RF10
TOP: Solving Exponential Equations KEY: exponential equation | half-life

10. ANS:

\$1 645.66

PTS: 1