Multiple-choice section

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Question | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| Answer | B | A | C | A | D | A | B | C | D |

Question 1 [13.2]

B



Subtract the principal ($6200) to find the interest of $635.50.

Question 2 [13.3]

A

Depreciation  
= P(1 – r)n

= $17 800(0.85)5

Question 3 [13.4]

C

I = PrT

= 200 × 0.042 × 5

= $42

Question 4 [13.4]

A

P = ?, T = 3 years, I = $13.50

I = PrT

13.50 = P × 0.015 × 3

13.50 = 0.045 × P

P = 

= $300

Question 5 [13.3]

D

r = 8.4% = 0.084

A = P(1 + r)n

A = 20 000(1 + 0.084)10

A = 20 000 × 1.08410

A = $44 804.62

Question 6 [13.6]

A

P = principal amount = $25 000

n = number of compounding periods

= 2 × 13 = 26

r = 

= 0.0175

A = P(1 + r)*n*

A = 25 000 × 1.017526  
A = $39 250 (nearest dollar)

Question 7 [13.3]

B

A = P(1 + r)*n*

$75 350 = 60 000(1 + r)10

 = (1 + r)10

1 + r = 

1 + r = 1.02304

r = 0.02304

r = 2.3%

Question 8 [13.4]

C

ref = ?, I1 = 350, P = 5000

ref =  × 100

ref =  × 100

= 0.07 × 100

= 7%

Question 9 [13.3]

D

The nominal rate is the stated rate, 19%

Multiple-choice results: 9

Short answer section

Question 10 10 marks

(a) Simple interest depends on the principal, interest rate per annum and the time in years.

(b) The original amount of money loaned or invested is called the principal.

(c) Interest that is calculated on the principal and interest from a previous time period is called compound interest.

(d) The value of an item after it depreciates is called the written-down value or the adjusted value.

(e) The amount that an item depreciates is called the depreciation value. Depreciation over a number of years is called total depreciation.

(f) Increase in cost or value is called appreciation and decrease in cost or value is called depreciation.

(g) Straight-line depreciation applies when items lose a constant amount of value each year.

Question 11 4 marks [13.1]

Interest = 

60 = 

R = 

r = 3%

Question 12 4 marks [13.2]

A = P(1 + r)n

= 2000(1 + 0.052)5

= 2576.966…

The total value is $2576.97

Question 13 4 marks [13.2]

r = 

= 0.006

n = 10 × 12

= 120

A = P(1 + r)n

= 25 000(1 + 0.006)120

= 51 250.45

The total value is $51 250.45

Question 14 6 marks [13.6]

r = ?

n = 10

A = P(1 + r)n

530 000 = 324 000(1 + r)10

 = (1 + r)10

= (1 + r)

1.050444… = 1 + r

r = 0.050444…

The average annual increase is 5%.

Question 15 4 marks [13.3]



Question 16 4 marks [13.6]

A = P(1 + r)n

= 12 276(1 - 0.075)5

= 12276(0.925)5

= 8313.148…

After 5 years there will be 8313 members remaining.

Question 17 4 marks [13.3]

P = $23 500

r = 2.6%

= 0.026

n = 4

VT = P(1 – r)T

= 23 500(1 – 0.026)4

= 21 149.67…

The value of the car is $21 150.

Short answer total: 38

Extended answer section

Question 18 5 marks [13.2]

(a) A = 1000(1.04)5  
= 1216.65…  
= $1217

(b) Effective profit  
= 1500 – 1217  
= $283

Question 19 8 marks [13.3]

(a) Initial costs = $2000

(b) Value after year 1: 2000 × 1.01 = $2020  
Value after year 2: 2020 × 1.02 = $2060.40  
Value after year 3: 2060.40 × 1.03 = $2122.21

(c) Effective profit  
= 4000 – 2122.21  
= $1877.79

(d) Effective percentage return:  


Extended answer results: 13

TOTAL test results: 60