**MATH 10C COURSE REVIEW – ANSWERS**

UNIT 1 REVIEW - Trigonometry

1. 324 m; 52.5 m

2. 56.8˚

3. 56.4 m

4. a) 16.4 cm

 b) 149 m

 c) 5.3 yd

5. a) 63.4˚

 b) 38.1˚

 c) 47.9˚

6. 1.72 km

7. 64.8˚; 69.3˚; 4.34 m

8. 216 ft

9. 27.0 m; 15.0 m

10 a) 29.2 cm; 54.3˚; 35.7˚

 b) 55.0˚; 500 km; 350 km

 c) 10.6 ft; 41.2˚; 48.8˚

11. a) 15 in

 b) 33.0˚

UNIT 2 REVIEW – Roots and Powers

1. 4 and 5

2. Order is: 

3. a) whole

 b) rational

 c) irrational

 d) integer

4. a) 

 b) 5

 c) 

 d) 7

5. a) 

 b) 

 c) 

 d) 

6. a) 

 b) 

 c) 

 d) 

7. a) 

 b) 52 = 25

 c) 

 d) 

8. a) 

 b) 

 c) *m*3

d) 256

 e) *a*5

 f) *ab*

UNIT 3 REVIEW – Factors and Products

1. a) 120

 b) 40

 c) 2*xy*

 d) 48*x*4

2. *s* = 13; *e* = 11

3. (*x* + 2)(*x* + 4)

5. -45; 21

6. 7*xy*(*y*2 + 2*x*3 – 5*x*2*y*3)

7. (*a* + 2)(*a* – 1)

8. (*x* – 5)(*x* + 5)

9. (3*p* – 5)2

10. 2(*n* + 4)(*n* + 1)

11. 3(*m* – 5)(*m* + 5)

12. 3(*n* + 1)(2*n* – 3)

13. a) 6*x*2 + 4*y*2 – 15*x* + 5*y* – 14*xy*

 b) -6*a* – 13

 c) -16*p*2 + 1

 d) 5*n*2 + 11*n* + 29

14. a) Difference of squares: (-*x* + 11)(*x* + 11)

 b) Perfect square: (6*x* + 8*y*)2

 c) Common factor: 11*mn*(2 – 3*n*3 + *n*2)

 d) Decomposition: (2*x* + 3)(*x* – 5)

15. 2*x*2 + 13*x* – 18; 16 in2

16. a) square

 b) square

 c) cube

 d) neither

 e) cube

 f) square

17.

|  |  |  |
| --- | --- | --- |
|  | 3*d* | 7 |
| -2*d* | -6*d*2 | -14*d* |
| 5 | 15*d* | 35 |

 -6*d*2 + *d* + 35

UNIT 4 REVIEW – Relations and Functions

2. i), ii)

 a) Function: {2, 3, 4, 5}, {5}

 b) Function: {0 ≤ *x* ≤ 20}, {0 ≤ *y* ≤ 25}

 c) Function: {-7, -3, 1, 5, 9}, {12, 13, 14}

 d) Relation: {-3, -5, -6}, {-2, -1, 1, 2}

 e) Function: {Real numbers}, {*y* ≤ 5}

 f) Relation: {-4, 4, 6, 8}, {-6, -4, 2, 6}

 iii) (b)

3. a) A: speeding up

 B: slowing down

 C: slowing down

 D: constant speed

 E: slowing down

 F: stopped

 b) C – negative

4. 5 m/s2

6. No – has quadratic term.

7. a) yes

 b) $50 per person

 c) *C* = 200 + 50*n*

 d) $6200

8. a) 700 L

 b) 25 minutes

 c) 28 litres/minute

 d) 18 minutes

UNIT 5 REVIEW – Linear Functions

1. A: 

 B: 

 C: 

 D: undefined; none; *x* = -5

 (not in slope-intercept form)

 E: 0; 4; *y* = 4

2. 

3. 

4. 

5. 

6. 3*x* – *y* = 0

7. a) 0.056 (5.6%)

 b) 1.7 feet

8. a) 5*x* – *y* + 7 = 0

 b) 3*x* + 4*y* – 21 = 0

9. Dylan

10. 22 m

11. *y* = 4*x* + 3

12. $y=\frac{2}{3}x+\frac{8}{3}$ and $y=-2x+\frac{9}{5}$

13. a) *C* = 60 + 15*h*

 b) 4 hours

14. a) $1422.50

 b) $8950

UNIT 6 REVIEW – Systems of Equations

1. (a) and (c)

2. a) An ordered pair that satisfies both equations

 Point of intersection of graph lines

 b) 1; 2; -2

 7; -7; 1

 d) (3, -4)

3. (-4, -8)

4. (-4, -7)

5. 

6. a) no solutions

 b) infinite solutions

 c) one solution

7. *y* = 2*x* + 1

8. *y* = 5*x* + 1 (many solutions possible – only requires parallel line – equal slopes)

9. a) (-0.57, 6.71)

 b) (5.12, 1.41)

10. Teens 24 hours

 Adults 13 hours

11. 35 cars and 9 motorcyles

UNIT 7 REVIEW - Measurement

1. a) eight times

 b) 27 times

2. a) 22.5 m

 b) 18.4 m

 c) 1171 m2

 d) 4146 m3

3. 4 yd 1 ft by 3 yd 1 ft

4. 600 miles

5. 4189 in3; 1257 in2

6. a) 7125 cm3

 b) 2366 cm2

7. 120 cm3

8. 123 cm3

9. a) 280 cm

 b) 8.9 yd

 c) 1 mile 690 yd

 d) 565 cm

 e) 228 yd 2 ft 2 in

10. a) 2860 in2; 39.9 in

 b) 54167 cm3

 c) 15132 in3: 52.8 in; 3728 in2

 d) 402 cm2; 603 cm3

11. 114 yd3