Unit 3 Midterm Review
Answer Section

MULTIPLE CHOICE

1. C
2. B
3. A
4. D
5. B
6. B
7. A
8. C
9. A
10. C
11. C
12. A
13. A
14. C

SHORT ANSWER

15. Answers will vary. For example: –2.34, –2.36, and –2.365
16. $1\overset{\cdot}{5}\overset{\cdot}{2}$, 1.2, $-1\overset{\cdot}{7}\overset{\cdot}{1}$, $-1\overset{\cdot}{4}\overset{\cdot}{1}$, –1.4
17. $-6\overset{\cdot}{20}\overset{\cdot}{7}$
18. $-\overset{\cdot}{9}\overset{\cdot}{43}$
19. $-12\overset{\cdot}{6}\overset{\cdot}{5}$
20. $4\overset{\cdot}{3}\overset{\cdot}{2}$
21. $\frac{5}{9}$
22. $-\frac{7}{2}$, or $-3\overset{\cdot}{2}\overset{\cdot}{1}$
23. –0.6

24. $\dfrac{3.6 - 3.9 \div (-2.6)}{(-5.2 + 1.5)^2}$

$= \dfrac{3.6 + 1.5}{(-3.7)^2}$

$= \dfrac{5.1}{13.69}$

$\doteq 0.37$

PROBLEM

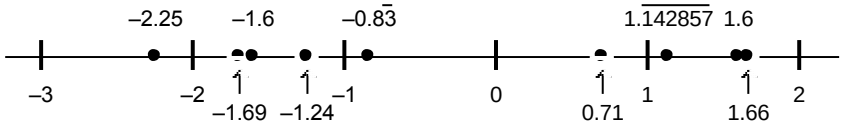
25. a) Write the fractions and mixed numbers as decimals.

$1\frac{1}{7} = 1.\overline{142857}$

$-\frac{5}{6} = -0.8\overline{3}$

$-\frac{9}{4} = -2.25$

Mark each number on a number line.



b) The numbers $1\frac{1}{7}$, $-\frac{5}{6}$, –1.24, and 0.71 are between –1.6 and 1.6.

26. a) $45.25 + 18.25 + (-31.64) + (-15.48) = 16.38$

b) Melissa has $16.38 left.

27. a) The greatest number is: –3.1
The least number is: –8.6
$-8.6 - (-3.1) = -5.5$ or $-3.1 - (-8.6) = 5.5$

b) We could subtract the least number from the greatest number or we could subtract the greatest number from the least number.

28. Temperature change:
32°C – 5°C = 27°C
Number of hours the temperature increased:
27°C ÷ 3.6°C/h = 7.5 h
So, it took 7.5 h to reach 32°C.

29. The mean maximum temperature is the sum of the temperatures divided by the number of temperatures:

$\dfrac{-2.6 + (-1.5) + 2.2 + 0.9 + (-1.6) + (-3.2) + (-2.7)}{7}$

$= \dfrac{-8.5}{7}$

$\doteq -1.2$

The mean maximum temperature for the week was about –1.2°C.

30. Error:

In line 3, the student evaluated $1.7 \times (2.5 + 3.5) \times 1.3$ instead of $(1.7 \times 2.5) + (3.5 \times 1.3)$.
Correction:

$1.7 \times (4.6 - 2.1) + 3.5 \times 1.3$

$= 1.7 \times 2.5 + 3.5 \times 1.3$

$= 4.25 \times 4.55$

$= 8.8$