
___ 31. Divide.

$$(-204x^2z^3) \div (272x^5y^2z)$$

a. $\frac{3z}{4x^3y^2}$

b.

c.

d.

e.

___ 32. A Piper Warrior holds 50 gal of 100LL aviation fuel. A pilot takes off and lands at another airport and fills up the tank, which takes gal. The pilot then flies to a second airport, which requires gal. Had the pilot made the trip to the two airports without refueling each time, how much fuel would have been left in the tank?

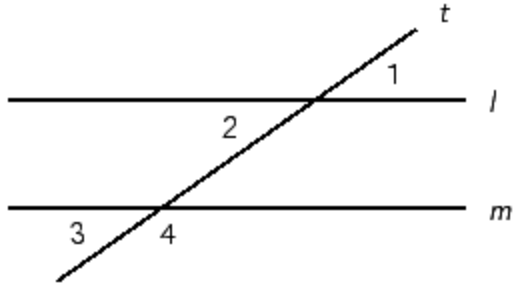
a. gal

b. gal

c. $16\frac{1}{8}$ gald. $15\frac{1}{3}$ gal

e. gal

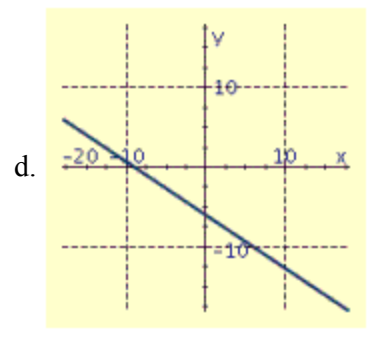
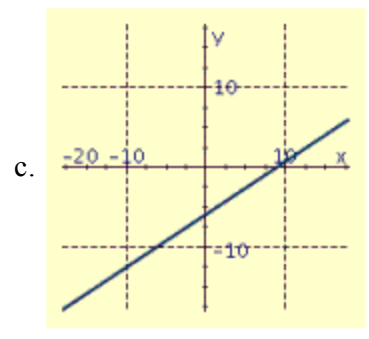
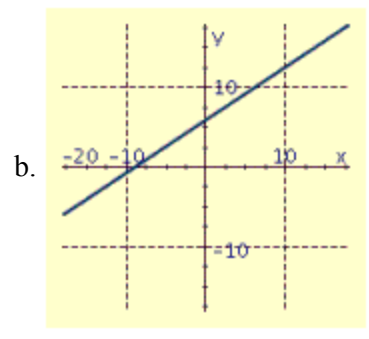
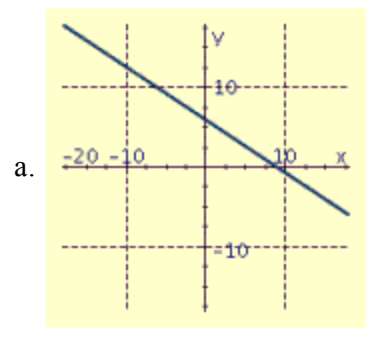
___ 33. Suppose $l \parallel m$ and $\angle 1 = 33^\circ$. What is the measure of $\angle 2$?



- a. 23°
- b. 28°
- c. 66°
- d. 18°
- e. 33°

___ 34. Draw the graph of the equation.

$$2x - 3y = 18$$



___ 35. Change 350 cm to m.

- a. 3.5 m
- b. 0.35 m
- c. 350,000 m
- d. 35 m
- e. 35,000 m

___ 36. Divide.

$$\frac{156x^4y^2z^3 - 104x^3y^3z^4 - 52xy^4z^2}{26xy^2z^2}$$

- a. $6x^3z - 4xy^2z^2 - 2y^4$
- b. $6x^3z - 4xy^2z^2 + 2y^4$
- c. $6x^3z^3 - 4x^2yz^2 - 2y$
- d. $6x^3z - 4x^2yz^2 - 2y^2$
- e. $6x^2z - 4x^3yz^2 + 2y^2$

___ 37. What color code on the first three bands is needed for the resistance?

700 Ω

- a. First band Second band Third band
black yellow violet
- b. First band Second band Third band
violet black red
- c. First band Second band Third band
yellow red black
- d. First band Second band Third band
red violet yellow
- e. First band Second band Third band
violet yellow violet

___ 38. Find the area of the trapezoid where a and b are the lengths of the bases and h is the perpendicular distance between the bases.

Let $a = 600$ meters, $b = 850$ meters, and $h = 250$ meters.

a. $Area = 362,500 \text{ m}^2$

b. $Area = 510,125 \text{ m}^2$

c. $Area = 181,250 \text{ m}^2$

d. $Area = 166,250 \text{ m}^2$

e. $Area = 106,850 \text{ m}^2$

___ 39. An experimental balloon is to have a diameter of 5.68 m. How much material is needed for this balloon?

a. 23 m^2

b. 71.4 m^2

c. 25.3 m^2

d. 143 m^2

e. 101 m^2

___ 40. Five pieces of sheet metal have been cut to form a container. The five pieces are of sizes 29×15 , 15×19 , 29×19 , 29×19 and 15×19 (all in inches). What is the total area of all five pieces?

a. $2,373 \text{ in.}^2$

b. $2,107 \text{ in.}^2$

c. $1,991 \text{ in.}^2$

d. $2,658 \text{ in.}^2$

e. $2,542 \text{ in.}^2$

___ 41. Write the abbreviation for the quantity.

168 microwatts

a. 168 hW

b. 168 μ W

c. 168 dW

d. 168 dm

e. 168 mW

___ 42. Round the number to three significant digits.

638.591

- a. 638.590
- b. 639
- c. 638
- d. 638.591
- e. 629

___ 43. Factor completely.

$$64y^2 - 16y + 1$$

- a. $(64y-1)(y-1)$
- b. $(8y+1)(8y+1)$
- c. $(8y-1)(8y-1)$
- d. $(y-1)(64y-1)$
- e. Not factorable

___ 44. Consider the following measurement.

283 g

Find the precision, the greatest possible error, the relative error and the percent of error (to the nearest hundredth of a percent).

- a. 1 g; 0.5 g; 0.001767; 0.18 %
- b. 2 g; 1 g; 0.001767; 0.18 %
- c. 1 g; 2 g; 0.003534; 0.18 %
- d. 1 g; 1 g; 0.003534; 0.27 %
- e. 0.5 g; 1 g; 0.001767; 0.35 %

___ 45. Find the prime factorization of the number (use the divisibility tests where helpful).

72

- a. $2 \cdot 2 \cdot 2 \cdot 3 \cdot 11$
- b. $2 \cdot 2 \cdot 2 \cdot 23$
- c. $2 \cdot 2 \cdot 3 \cdot 3 \cdot 11$
- d. $2^3 \cdot 3 \cdot 3$
- e. $2 \cdot 2 \cdot 2 \cdot 3 \cdot 3$

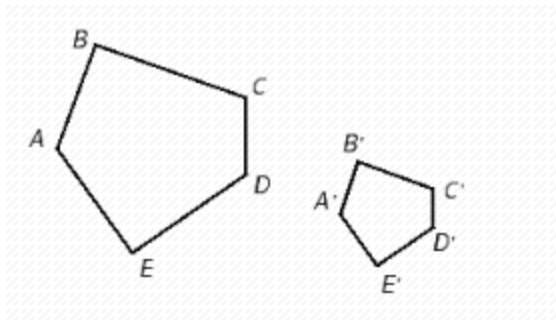
- ___ 46. A helicopter is 59 miles due north of a VOR station according to its DME (Distance Measuring Equipment). One hour later it is 48 miles east of the VOR.

How far has the helicopter flown? Use the rules for working with measurements.

- a. 76.1 mi
 - b. 107 mi
 - c. 77.2 mi
 - d. 79.4 mi
 - e. 73.9 mi
- ___ 47. Find the slope of the line passing through the pair of points.

$(-2, 1), (1, 10)$

- a. $m = 1$
 - b. $m = 2$
 - c. $m = 3$
 - d. $m = 6$
 - e. no solution
- ___ 48. A polygon cross-sectional duct is to be exposed and painted. It is to be attached to a same-shaped, but smaller duct. If the dimensions of the ducts are $AB = 24$ in., $DE = 40$ in., $A'B' = 9$ in., find $D'E'$?



- a. 6 in.
- b. 15 in.
- c. 30 in.
- d. 3 in.
- e. 45 in.

___ 49. You need 15 ft^3 of cement to make 70 ft^3 of concrete. Find the ratio of volume of concrete to volume of cement.

a. $\frac{3}{14}$

b. $\frac{16}{5}$

c. $\frac{14}{3}$

d. $\frac{10}{7}$

e. $\frac{20}{9}$

___ 50. \$36 is 4.5% of what amount?

a. \$1,080.00

b. \$800.00

c. \$162.00

d. \$769.60

e. \$384.80

Answer Key

1. c
2. a
3. b
4. d
5. d
6. e
7. e
8. b
9. c
10. b
11. a
12. c
13. d
14. c
15. d
16. b
17. a
18. c
19. c
20. a
21. e
22. b
23. e
24. e
25. b
26. e

Name: _____ Class: _____ Date: _____

Ver: 3

27. a

28. b

29. c

30. b

31. d

32. a

33. e

34. c

35. a

36. d

37. b

38. c

39. e

40. b

41. b

42. b

43. c

44. a

45. e

46. a

47. c

48. b

49. c

50. b