Trimester 2 Benchmark Review

Solve.

1. $-1 - 2c = 4$ $c = \dfrac{-5}{2}$

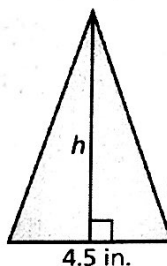2. $4(2g - 3) = 5(g - 2)$ $3g = 2$ $g = \dfrac{2}{3}$

   $8g - 12 = 5g - 10$

3. One cell phone plan charges $17.50 per month plus $0.17 per minute used. A second cell phone plan charges $32 per month plus $0.07 per minute used. Write and solve an equation to find the number of minutes you must talk to have the same cost for both calling plans.

   $17.50 + 0.17m = 32 + 0.07m$

   $0.1m = 14.5$

   $\boxed{m = 145}$

4. a. Write the formula for the area of a triangle. Then solve for h. $h = \dfrac{2A}{b}$

   b. The area of a triangle is 14.4 square inches. Use the new formula to find the height of the triangle in inches. $h = \dfrac{2(14.4)}{4.5}$
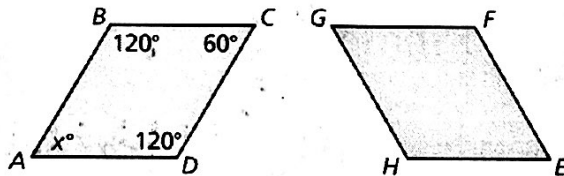
   b) $\boxed{6.4\text{ in}}$

   4.5 in.

In Exercises 5 and 6, use the following information.

Parallelograms *ABCD* and *EFGH* are congruent.

B 120° 60° C   G   F

$x°$ 120°

A   D   H   E

5. Which side of *EFGH* is congruent to side *BC*? FG
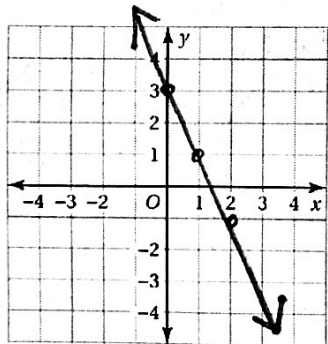
6. Find the measure of $\angle E$. $60°$

7. Find the measure of <u>each angle</u> of a regular polygon with 10 sides. $\dfrac{1440°}{10} = \boxed{144°}$
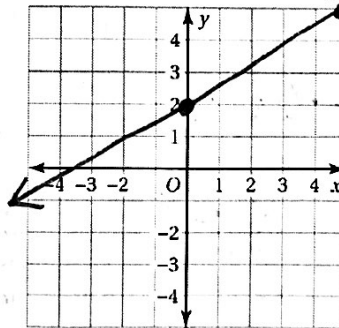
Graph the equation.

8. $y = -2x + 3$

9. $-3x + 5y = 10$ $5y = 3x + 10$

   $y = \dfrac{3}{5}x + 2$

10. The equation $3.5x + 1.5y = 21$ represents the cost for a family to attend a play where x is the number of adults and y is the number of children. Find the intercepts and interpret the meaning of each one.
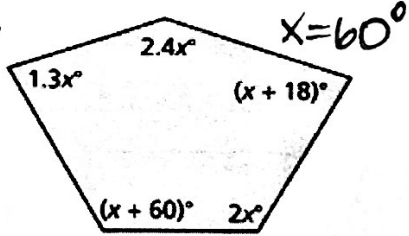
    x int = 6 → only 6 adults attend, no kids

    y int = 14 → only 14 kids attend, no adults
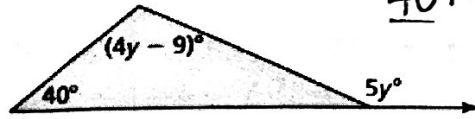
$1.3x + 2.4x + x + 18 + 2x + x + 60 = 540$

$7.7x + 78 = 540$

Find the value of x.

11.

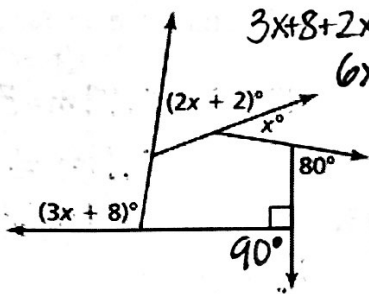$2.4x°$
$1.3x°$
$(x + 18)°$
$(x + 60)°$ $2x°$

$x = 60°$

12.

$(4y - 9)°$
$40°$
$5y°$

$40 + 4y - 9 = 5y$
$31 + 4y = 5y$
$31 = y$

13.

$(2x + 2)°$
$x°$
$80°$
$(3x + 8)°$
$90°$

$3x + 8 + 2x + 2 + x + 80 + 90 = 360$
$6x + 180 = 360$
$6x = 180$
$x = 30°$

8 yd, A
B
3 yd, C
9 yd
E
x yd
D
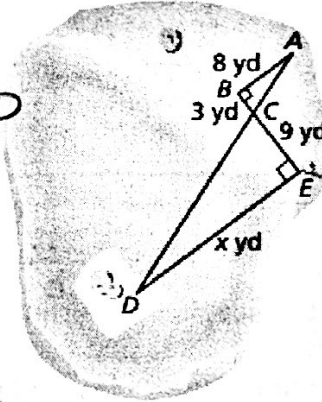
$\frac{8}{3} = \frac{x}{9}$
$3x = 72$
$x = 24 yd$

15. The table shows the cost y (in dollars) of x peaches.

a. Graph the data.

Peaches, x	0	4	8	12
Cost, y	0	3	6	9

b. Write an equation. $y = \frac{3}{4}x$

c. What is the cost of six peaches? $4.50

cost / peaches
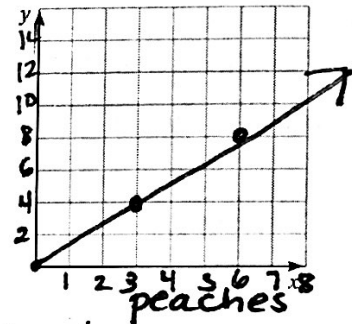
16. Classify the real number:
a) $\sqrt{2}$ irrational
b) $\frac{1}{11}$ rational
c) 7 natural

Evaluate the expression.

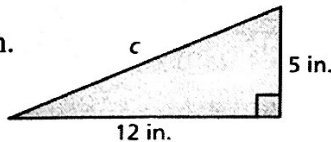**17.** $-\sqrt{225} + 4.8 = -10.2$
$-15 + 4.8$

18. $3\sqrt[3]{-343} + 8 = 3(-7) + 8$
$-21 + 8 = -13$

19. Find the missing side length.

c
5 in.
12 in.

$c = 13 in$

20. A ladder is placed against the side of a house. The top of the ladder is 24 feet above the ground. The base of the ladder is 7 feet away from the house. Find the length of the ladder.

24, C, 7

$25 ft$

21. What two integers is $-\sqrt{42}$ between?
$-6 \ \& \ -7$

22. Solve $16x^2 - 100 = 0$
$\frac{16x^2}{16} = \frac{100}{16}$ $\sqrt{x^2} = \sqrt{\frac{100}{16}}$
$x = \frac{10}{4} = \frac{5}{2}$

Simplify.

23. $(-2p)^4$
$16p^4$

24. $\left(\frac{2}{3}m\right)^4$ $\frac{16}{81}m^4$

25. $3^{-2}a^4$ $\frac{a^4}{9}$

26. $\frac{14r^8}{2r^{15}}$ $\frac{7}{r^7}$

27. $\frac{3^5a^{17}b^{21}}{3^4a^{15}b^{12}} = 3a^2b^9$

Write the number in correct Scientific Notation.

28. 741,000 7.41×10^5

29. 0.0031 3.1×10^{-3}

30. 12×10^{-7} 1.2×10^{-6}

Evaluate the expression.

31. $(4.0 \times 10^{-1}) \times (2.5 \times 10^{-4})$
10×10^{-5}
$\boxed{1 \times 10^{-4}}$

32. $(1.6 \times 10^{-4}) + (8 \times 10^3)$
0.2×10^{-7}
$\boxed{2 \times 10^{-8}}$