

SBA

10th

Answers to
Mathematics
Practice

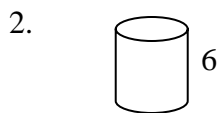
3. (a) $\sqrt{144 \cdot 2} = \sqrt{144} \cdot \sqrt{2} = 12\sqrt{2}$
4. (c) $\sqrt{9 \cdot 3} = \sqrt{9} \cdot \sqrt{3} = 3\sqrt{3}$
5. a.) $4\sqrt{2} + 2\sqrt{2} = 6\sqrt{2}$
- b.) $\frac{\sqrt{5}}{\sqrt{81}} = \frac{\sqrt{5}}{9}$
- c.) $5\sqrt{18} = 5\sqrt{9}\sqrt{2} = 5 \cdot 3\sqrt{2} = 15\sqrt{2}$
6. a.) $\sqrt{100 \cdot 3} - \sqrt{25 \cdot 3} = 10\sqrt{3} - 5\sqrt{3} = 5\sqrt{3}$
- b.) $\sqrt{9 \cdot 2} - \sqrt{2} + \sqrt{3} = 3\sqrt{2} - \sqrt{2} + \sqrt{3} = 2\sqrt{2} + \sqrt{3}$
- c.) $\sqrt{30}$
7. $c = \sqrt{64 + 36} = \sqrt{100} = 10$
8. $s = \sqrt{30 \cdot 125 \cdot 0.5} = \sqrt{1875} = \sqrt{25 \cdot 75} = \sqrt{25 \cdot 25 \cdot 3} = 25\sqrt{3}$

[10] N-4

1. (c) $|-8| - |-3| = 8 - 3 = 5$
2. a.) -6.25 (add the numbers)
- b.) 13 (subtract the numbers)
- c.) $36 + 42 = 78$
3. (a) $9 - \frac{48}{-16} = 9 - ^-3 = 9 + 3 = 12$
4. a.) 16 b.) $\frac{7}{9} + \frac{6}{9} = \frac{13}{9}$ or $1\frac{4}{9}$ c.) $(-2.25 + .75) \cdot 8 = (-1.5) \cdot 8 = ^-12$

[10] N-5

1. $5 \cdot 3 \cdot 1.5 = 22.5$ cu.ft.



$$V = \pi r^2 h$$

$$V = \pi \cdot 4^2 \cdot 6 = 96\pi$$

$$V = 3.14 \cdot 16 \cdot 6$$

$$V = 301.44 \text{ cu. ft.}$$

3. A a.) 5 b.) 4 c.) 3 d.) 1 e.) 10
 B a.) 216 b.) 343 c.) 8000 d.) -8 e.) 1

$$4. \frac{4}{3} \pi \cdot 3 \cdot 3 \cdot 3 = 36\pi$$

$$5. \text{Radius} = 18/2 = 9 \quad \frac{4}{3} \pi \cdot 9 \cdot 9 \cdot 9 = 972\pi$$

$$6. \text{ a.) } V = \frac{4}{3} \pi r^3$$

$$\frac{500\pi}{3} = \frac{4}{3} \cdot \pi r^3$$

$$r^3 = \frac{500\pi}{3} \cdot \frac{3}{4\pi}$$

$$r^3 = 125$$

$$r = \sqrt[3]{125} = 5$$

$$\text{ b.) } V = \frac{4}{3} \pi r^3$$

$$\frac{256\pi}{3} = \frac{4}{3} \cdot \pi r^3$$

$$r^3 = \frac{256\pi}{3} \cdot \frac{3}{4\pi}$$

$$r^3 = 64$$

$$r = \sqrt[3]{64} = 4$$

$$7. V = 4/3 \cdot 3 \cdot 3 \cdot 3$$

$$V = 4 \cdot 9$$

$$V = 36 \cdot 3.14 = 113.04 \text{ cm}^3$$

$$8. \frac{4}{3} \cdot 3.14 \cdot 2 \cdot 2 \cdot 2 \approx 33.5 \text{ cm}^3$$

$$9. 1/3 \cdot 9 \cdot 3.14 \cdot 10 = 94.2 \text{ ft}^3$$

[10] N-7

$$1. \text{ a.) } \begin{array}{r} 13 + 7 + 78 \\ 20 + 78 \\ 98 \end{array}$$

$$\text{ b.) } \begin{array}{r} 3.7 + 6.3 + 2.2 + 5.4 \\ 10 + 7.6 \\ 17.6 \end{array}$$

$$\text{ c.) } \begin{array}{r} 1.04 + 0.56 + 0.25 + 0.75 \\ 1.60 + 1.00 \\ 2.6 \end{array}$$

$$\text{ d.) } \begin{array}{r} 60 + 40 + 38 + 22 \\ 100 + 60 \\ 160 \end{array}$$

$$2. \text{ a.) } \begin{array}{r} 2 \cdot 5 \cdot 8 \cdot 9 \\ 10 \cdot 72 \\ 720 \end{array}$$

$$\text{ b.) } \begin{array}{r} 10 \cdot 10 \cdot 8 \cdot 6 \\ 100 \cdot 48 \\ 4800 \end{array}$$

$$\text{ c.) } \begin{array}{r} 2 \cdot 0.5 \cdot 8 \cdot 4 \\ 1 \cdot 32 \\ 32 \end{array}$$

$$\text{ d.) } \begin{array}{r} 5 \cdot 4 \cdot 22 \\ 20 \cdot 22 \\ 440 \end{array}$$

$$\text{ e.) } \begin{array}{r} 4 \cdot 0.25 \cdot 3 \cdot 12 \\ 1 \cdot 36 \\ 36 \end{array}$$

$$\text{ f.) } \begin{array}{r} 7 \cdot 8 \cdot 5 \\ 7 \cdot 40 \\ 280 \end{array}$$

$$3. 4(3.95 + 1.25 + 2.15) = 4(4.00 + 1.25 + 2.10) = 4(7.35) = 4 \cdot 7 + 4 \cdot (.30) + 4 \cdot (.05) = 28 + 1.20 + .20 = \$29.40$$

$$4. \text{ (b) } 3x^2 - 6x - 9 - 2x^2 + 8 = 3x^2 - 2x^2 - 6x - 9 + 8 = x^2 - 6x - 1$$

5. $9(9x) - 9(4y) + 9(5z)$
 $81x - 36y + 45z$

6. a.) $725 + 333 + 275$
 $\textcircled{725}$ and $\textcircled{275}$

b.) $29 + 4 + 91 + 44$
 $\textcircled{29}$ and $\textcircled{91}$

c.) $5 \cdot 11 \cdot 3 \cdot 20$
 $\textcircled{5}$ and $\textcircled{20}$

[10] N-8

1. a.) $2 \cdot 17 \cdot x \cdot x \cdot x$
d.) $11 \cdot a \cdot b \cdot b$

b.) $2 \cdot 2 \cdot 3 \cdot x \cdot y \cdot y$
e.) $5 \cdot m \cdot m \cdot m \cdot m \cdot m \cdot n \cdot n \cdot n$

c.) $2 \cdot 2 \cdot 2 \cdot 5 \cdot x \cdot x \cdot x \cdot x \cdot y \cdot y$

2. (c)

3. (c)

4. (d)

5. (c)

6. (a)

7. (a) $2 \cdot 2 \cdot 3 \cdot r \cdot r \cdot r \cdot s \cdot s$

(b) $2 \cdot 2 \cdot 3 \cdot 7 \cdot p \cdot q \cdot q \cdot q \cdot q$

(c) $5 \cdot 5 \cdot 5 \cdot m \cdot m \cdot n \cdot n \cdot p$

(d) $2 \cdot 2 \cdot 2 \cdot 3 \cdot 5 \cdot x \cdot y$

[10] MEA-1

1. a.) $3 \cdot 1.5 \cdot 0.5 = 2.25$ cu. ft.

b.) 1 cu. ft. = $12 \cdot 12 \cdot 12 = 1728$ cu. in.
 $2.25 \cdot 1728 = 3888$ cu. in.

2. a.) $5 \cdot 6 \cdot 1 = 30$ cu. ft. of sand

b.) 1 cu. yd. = $3 \cdot 3 \cdot 3 = 27$ cu. ft.

$$\frac{30}{27} = \frac{10}{9} \text{ or } 1\frac{1}{9} \text{ cu. yd. (or } 1\bar{1} \text{ cu. yd.)}$$

3. $50 \cdot 30 \cdot 20 = 30,000$

$$\frac{30000}{1000} = 30 \text{ liters of water}$$

4. a.) 54 sq. yd.

b.) 1 sq. yd. = $3 \cdot 3 = 9$ sq. ft.
 $54 \cdot 9 = 486$ sq. ft.

5. a.) $200 \cdot 350 = 70,000$ mm²

b.) 1 cm = 100 mm

$$70,000 \div 100 = 700 \text{ cm}^2$$

6. a.) $\pi \cdot \frac{1}{4} \cdot \frac{1}{4} \cdot 4 = \frac{1}{4}\pi$ cubic feet

b.) 1 foot = 12 inches
1 cubic foot = 1728 cubic inches

$$\frac{1}{4}\pi \cdot 1728 = 432\pi \text{ cubic inches}$$

c.) S.A. = $2 \bullet r^2 + 2 \bullet rh$ 1 foot = 12 inches

$$2\pi \cdot \frac{1}{4} \cdot \frac{1}{4} + 2\pi \cdot \frac{1}{4} \cdot 4$$

$$= \frac{1}{8}\pi + 2\pi$$

$$= \frac{17}{8}\pi \text{ or } 2\frac{1}{8}\pi \text{ ft}^2$$

d.) $1 \text{ ft}^2 = 12 \cdot 12 \text{ in}^2$

$$\frac{17\pi}{8} \text{ ft}^2 = \frac{17\pi}{8} \cdot 12 \cdot 12 \text{ in}^2$$

$$= 306\pi \text{ in}^2$$

[10] E&C-2

1. (b) $3.14 \cdot 9^2 = 254.34$

2. (b) $12 \cdot 12 \cdot 12 = 1728 \text{ cu. in.}$

3. a.) Radius = $1.5/2 = \frac{3}{4}$

b.) Height of cylinder = $1.5 \cdot 4 = 6 \text{ in}$

$$\frac{4}{3}\pi \cdot \frac{3}{4} \cdot \frac{3}{4} \cdot \frac{3}{4} = \frac{9}{16}\pi \text{ in}^3$$

$$\pi \cdot \frac{3}{4} \cdot \frac{3}{4} \cdot 6 = \frac{27}{8}\pi \text{ in}^3$$

c.) $\frac{27}{8}\pi - 4 \cdot \frac{9}{16}\pi = \frac{27}{8}\pi - \frac{18}{8}\pi = \frac{9}{8}\pi \text{ in}^3$

4. (c) $T = 500(1 + .07)^4 = \$655.40$

[10] E&C-3

1. (c) $550 \cdot (1.05) = \$577.50$

2. a.) $550 \cdot (.9) = \$495$

b.) $450 \cdot (1.1) = \$495$

3. $22000(.05) = 1100$ $22000 + 1100 = \$23,100$

4. (d) $\frac{6}{30} = \frac{1}{5} = .2 = 20\%$

5. $125 - 85 = 40$ $\frac{40}{125} = .32 = 32\%$

6. (c) $20 - 17 = 3$ $\frac{3}{20} \cdot 15 = 15\%$
7. $154 - 140 = 14$ $\frac{14}{140} = \frac{1}{10} = 10\%$
8. $160 - 120 = 40$ $\frac{40}{160} = .25 = 25\%$
9. (b) $178 - 128 = 50$ $\frac{50}{178} = .28 = 28\%$

[10] F&R-1

1. (c) all the rest can be found using a whole number: $3^1 = 3$, $3^2 = 9$, $3^3 = 27$
2. (b) $8 + 1.25x$
3. You have to double the input (x) and add 5, so the last box is $2n + 5$.
4. a.) (4, 6 lbs), (6, 9 lbs), (8, 12 lbs), (10, 15 lbs) ... (n, 1.5n)
 b.) 20 (1.5) or 30 pounds (that's a really big turkey!)
 c.) 20 min = $1/3$ hour, so $(1/3)(30)$ or 10 hours
 d.) 2 A.M.!
5. Since the slope is not constant, it cannot be linear. It must therefore be nonlinear. It works to square the input (x) and subtract 1. The last boxes should be:
 $24, 35, \dots, n^2 - 1$
6. Add the two previous numbers. $1 + 1 = 2$, $1 + 2 = 3$, etc. The last numbers are:
 $8 + 13 = 21$, $13 + 21 = 34$, $21 + 34 = 55$. To find n , add $(n - 2) + (n - 1)$, the two numbers in front of n .
7. a.) \$1.27 b.) \$5.12 c.) \$10.23 d.) Each day is double the previous day.
8. a.) $48 - 3(6) = \$30$ b.) Solve for x in $48 - 3x = 0$, 16 days
9. Possible Answer:
 a.) In 2 days $480 - 450 = 30$ computers were manufactured.
 In 1 day, $30/2$ computers were produced.
 Today, he would have $480 + 15 = 495$ computers in stock
 b.) Two days from now, he would have $15 \times 2 = 30$ more computers.
 So he would have $495 + 30 = 525$ computers
 c.) One week ago, means that the number of days is -7.
 $495 - 7(15) = 495 - 105 = 390$ computers

[10] F&R-2

1. (e) double the x and subtract 5
2. (d) $y = -3x + 2$
3. (c) U
4. a.) $1 \geq 2 \cdot 2 - 1$ No
 b.) $-1 \geq 2 \cdot 0 - 1$ Yes
 c.) $2 \geq 2 \cdot 1 - 1$ Yes
 d.) $-10 \geq 2(-4) - 1$ No

[10] F&R-3

- (b) Y-intercept changes
- (a) Slope is descending rather than ascending.
- (c) The lines are perpendicular. The slope of the first is up one, over 2.
The slope of the second is down 2, over 1.
- The distance is also doubled.
- (d) $13 \times 10 = 130$ sq. ft $12 \times 10 = 120$ sq. ft. $130 - 120 = 10$ sq. ft. smaller

[10]F&R-5

- (d) (2, 5)
- $O + D = 12$
 $O = 3D$
 $3D + D = 12$
 $4D = 12$
 $D = 3$ Derek = 3 fish
 $O = 3D = 9$ Orlando = 9 fish

- $J + V = 20$
 $J = V + 8$
 $V + 8 + V = 20$
 $2V + 8 = 20$
 $2V = 12$
 $V = 6$ Vale = \$6
 $J = 6 + 8 = 14$ Joy = \$14

- $D + T = 17$
 $T = D + 7$
 $D + D + 7 = 17$
 $2D + 7 = 17$
 $2D = 10$
 $D = 5$ Dan = 5 pts.
 $T = 5 + 7 = 12$ Tony = 12 pts.

- (a)
$$\begin{cases} s + p \geq 6 \\ 11s + 45p \leq 171 \end{cases} \quad \begin{cases} -11s - 11p \geq -66 \\ 11s + 45p \leq 171 \end{cases} \quad \begin{matrix} 34p = 105 & s + p = 6 \\ p = 3.08 & s = 3 \end{matrix}$$

3 pants and 3 shirts (You were not asked to solve!)

- Cheapo costs $\$20.50 + 0.10m$
- Price-Slash costs $\$23.75 + 0.09m$
- $20.50 + 0.10m = 23.75 + 0.09m$
 $3.25 = 0.01m$
 $m = 325$ miles
- Cheapo: $\$20.50 + (0.10)(200) = \$20.50 + 20 = \$40.50$
Price-Slash: $\$23.75 + (0.09)(200) = \$23.75 + 18 = \$41.75$

Yes, it is better to rent from Cheapo Car Rental

[10] F&R-6

$$1. x = \frac{6 \pm \sqrt{6^2 - 4 \cdot 3(-45)}}{2 \cdot 3}$$

$$x = \frac{6 \pm \sqrt{36 + 540}}{6}$$

$$x = \frac{6 \pm \sqrt{576}}{6}$$

$$x = \frac{6 \pm 24}{6}$$

$$x = \frac{6 + 24}{6} \text{ or } \frac{6 - 24}{6}$$

$$x = 5 \text{ or } -3$$

$$2. (d) x = \frac{-2 \pm \sqrt{2^2 - 4(-1)(27)}}{2(-1)}$$

$$x = \frac{-2 \pm \sqrt{4 + 108}}{-2}$$

$$x = \frac{-2 \pm \sqrt{112}}{-2}$$

$$x = \frac{-2 \pm \sqrt{16} \cdot \sqrt{7}}{-2}$$

$$x = \frac{-2 \pm 4\sqrt{7}}{-2}$$

$$x = 1 \pm 2\sqrt{7}$$

$\sqrt{7}$ is between $\sqrt{4}$ or 2 and $\sqrt{9}$ or 3, closer to 3 or about 2.6
so the answer is close to $1 + 2(2.6)$ or 6.2 or $1 - 2(2.6)$ or -4.2
-4.2 makes no sense in this case, so the answer is about 6.2

3. First, set the equation equal to zero!

$$x^2 - 3x - 14 = 0$$

$$x = \frac{3 \pm \sqrt{3^2 - 4(1)(-14)}}{2(1)}$$

$$x = \frac{3 \pm \sqrt{9 + 56}}{2}$$

$$x = \frac{3 \pm \sqrt{65}}{2}$$

$$4. \quad x = \frac{6 \pm \sqrt{6^2 - (4)(1)\left(\frac{11}{4}\right)}}{2}$$

$$x = \frac{6 \pm \sqrt{36 - 11}}{2}$$

$$x = \frac{6 \pm \sqrt{25}}{2}$$

$$x = \frac{6 \pm 5}{2}$$

$$x = \frac{11}{2} \text{ or } \frac{1}{2}$$

5. (a) 1 second

Set $h = 0$ and use the quadratic formula. (The negative answer does not make sense.)

[10] F&R-7

1. $x = -g$

2. $z = \frac{k - c}{2}$

3. $z = \frac{nj + 7f}{g}$

4. $j = \frac{gx - zu}{y - c}$

5. $n = \frac{zu + zg}{10 + j}$

6. (a) $l = \frac{P - 2w}{2}$ (b) $w = \frac{P - 2l}{2}$

7. (a)

8. (c)

9. (d)

[10] G-1

1. False

2. True

3. False

4. True

5. True

6. a.) 148° b.) 148° c.) 32° d.) 32°

7. a.) 128° b.) 52° c.) 360° d.) 52°

8. F A B G C

9. (a)

10. $140 + 85 + 60 + 46 = 331$ $360 - 331 = 29^\circ$

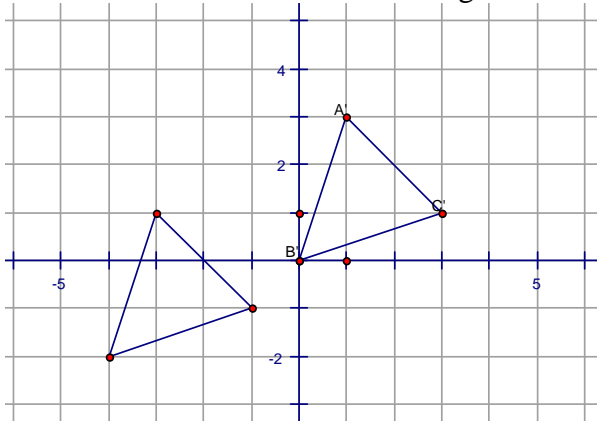
11. (c)

[10] G-3

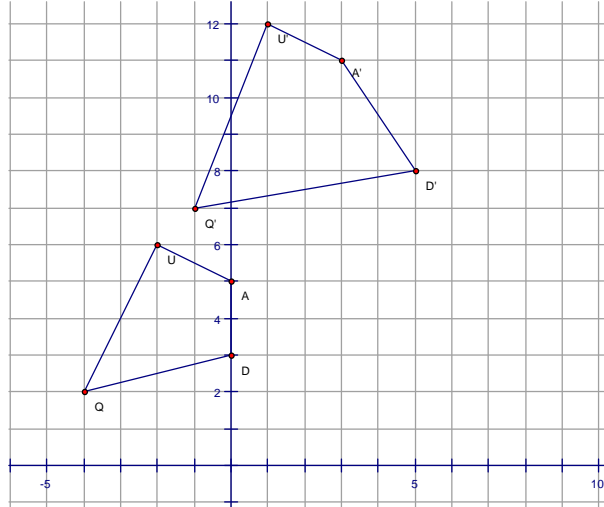
1. Given triangle AEC in diagram D with BD parallel to AE
 Angle CBD is congruent to angle A because they are corresponding angles. Angle C is congruent to itself. Therefore, angle CDB must be congruent to angle E because the sum of the angles of any triangle equals 180 degrees. CB is equal to $\frac{1}{2}$ CA, and CD is equal to $\frac{1}{2}$ CE by the definition of midpoint. Since the angles are congruent and the sides are proportional, the triangles are similar.

[10] G-4

1. Yes
2. The new sides are 1.5 times the original sides.



3.



4 & 5

Not similar.

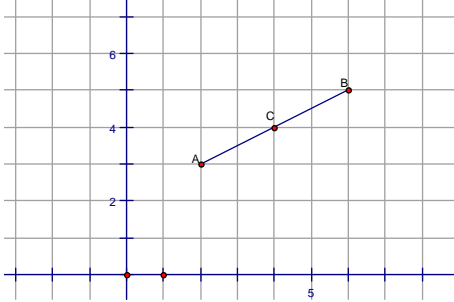
6. Sides are not congruent.

[10] G-5

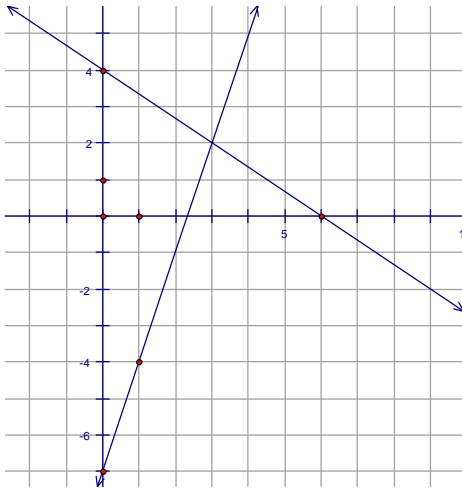
1. (a) 21 cubic feet
2. (a) 75.36 cubic meters
3. $2(10 \cdot 4) + 2(6 \cdot 4) + 2(10 \cdot 6) = 248$ sq. in.

[10] G-6

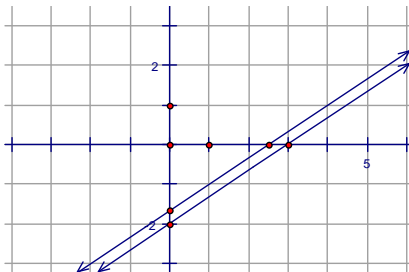
1. (d) $2\sqrt{5}$
2. (b) (4, 4)
- 3.



[10] G-7



- 1.
2. (a) intersecting lines
3. (3, 2)
4. The first line has a slope of $2/3$ and y-intercept of -2 . The second line has a slope of $2/3$ and a y-intercept of $-1\frac{2}{3}$. Since the slopes are the same but the y-intercepts are different, the lines are parallel.



5. No solution.

[10] S&P-1

1. Pollution Campaign
2. Trash Pick-Up
3. Plant Trees
4. 160
5. Trash Pick-Up and Recycle Project
6. You add the girls' and the boys' for each project to find the greatest total.
7. 20.095 seconds
8. 22.385 seconds
9. 20.095 seconds
10. 22.385 seconds
11. Answers will vary. Back-to-back stem and leaf plot since the data is arranged in order of size. The median is the middle number, when the data is arranged in order of size.
12. 10.3 seconds
13. 11.5 seconds
14. 10.3 seconds
15. 11.5 seconds
16. No. A circle graph will not be able to display the various times in detail and would not be able to display data for both men and women at the same time.
17. 1993
18. 1995
19. 1990 and 1991
20. 6.3
21. 3.7

[10] S&P-2

1. False
2. The scale is not in equal increments.
3. It looks like twice as many people prefer Krispy Krackles instead of 50 % more.
4. The amount invested in West Bank is $795/.0765 = \$10392.16$

The other banks had only \$10299 as principal (with the exception of North Bank that had \$10283.33 as principal).

The bars are all equal in length, with the exception of West Bank's which is almost double the length of the other banks.
5. The vertical scale on the second graph, "Modest Wages" goes from 0 to 8, with each tick mark represent \$2. On the other hand, the graph of "Wages Skyrocket" begins from 4 to 7, with each tick mark representing \$0.50.
6. The vertical scale of "Modest Wages" is \$2. This has the effect of diminishing the effect of change, thereby making the increase smaller.

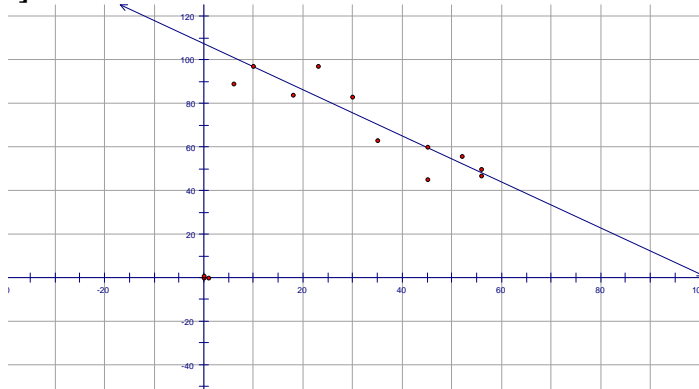
The vertical scale of "Wages Skyrocket" starts from 4 and each tick mark represents \$0.50. The effect is a dramatic increase in wages.

Modest Wages more accurately represents the data since it shows a wider range of wages.

[10] S&P-3

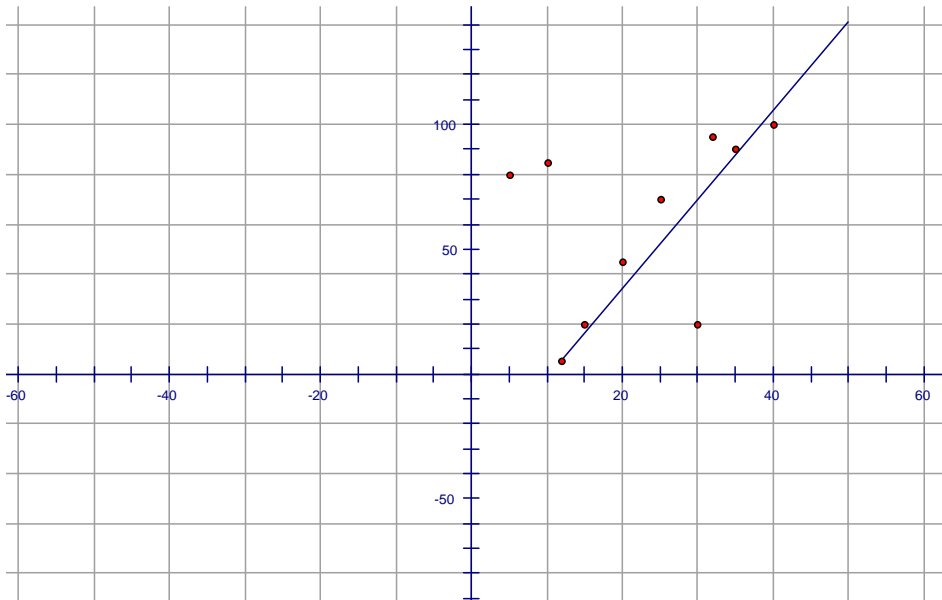
1. \$9.70
2. \$8.00
3. \$7.00
4. $\$20 - \$5 = \$15$
5. No, because the mode is the lowest measure.
6. The mean gives the greatest amount.
7. The mean is 80.11. Add up all numbers and divide by 9.
8. The median is 77. List all numbers in order and find the middle number.
9. The mode is 75; the one that is listed the most.
10. The range is $92 - 65$ or 27.
11. Julie would want to use the mean since it is the highest value and represents a B.
12. The employees used the mode.
13. The owners used the average ($6000/20 = \$300$)
14. A mediator would use the median (\$250) since it is the middle value of the wages.
15. Mean = $333/45 = \$7.40$
16. Median = \$7.50
17. Mode = \$6
18. Yes it is reasonable since the mean amount is \$7.40 and the median is \$7.50.

[10] S&P-4



1. (Lines may vary.)
2. b.) The higher the latitude, the lower the temperature.
3. Approximately 108°. Answers will vary.
4. Approximately 30°N. Answers will vary.

5.&6. Plotted points and possible line of best fit below:



7. From the line of best fit, when $x = 50$, $y = 150$

[10] S&P-5

1. $98/200$ or $49/100$ or $.49$
2. $102/200$ or $51/100$ or $.51$
3. 500 or $\frac{1}{2}$ of all babies would be girls 500 or $\frac{1}{2}$ would be boys
4. 490 girls 510 boys
5. Theoretical probability is based on possibilities without any actual data. Experimental probability is based on actual data.
6. $.35$
7. $.57$
8. $.20$

[10] S&P-6

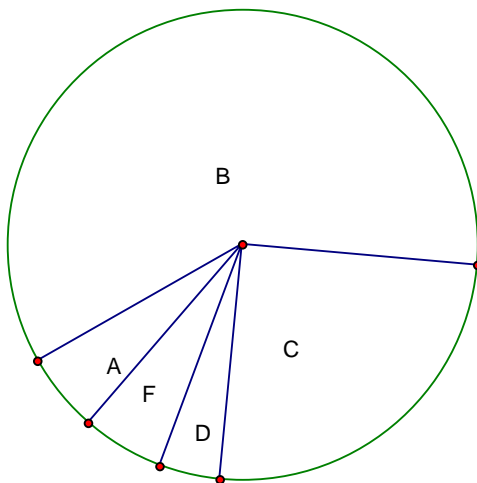
1. $196 \div 7 \times 2 = 56$ people
2. $1/180$ or $.00\bar{5}$
3. $10/180$ or $1/18$ or $.0\bar{5}$
4. $4/52$ or $1/13$
5. $13/52$ or $\frac{1}{4}$
6. $13/52 \cdot 12/51 = 1/17$ or $.0588$
7. $13/52 \cdot 13/52 = 1/4 \cdot 1/4$ or $1/16$ or $.0625$
8. $2/26$ or $6/13$

9. $13/25$
10. $24/49$
11. $1/2$
12. $1/2$
13. $5 \times 3 = 15$ shirts
14. $3/15$ or $1/5$
15. $5/15$ or $1/3$

[10] PS-1

1. Answers will vary. $80 + 90 + 120 + 50 = 340$ sq. ft.
 $360 \div 9 = 40$ sq. yd.
 $40 \times \$15 = \600
2. Area = $10 \times 8 + 10 \times 9 + 5 \times 18 + 7 \times 9 = 323$ sq. ft.
 $323 \div 9 = 35.8888$ sq. yd.
 $36 \times \$15 = \540.00
 Answers may vary.
3. $2(22) + 20 + \frac{1}{2} \cdot 20 \cdot \pi = 44 + 20 + 10 \cdot 3.14 = 95.4$ feet
4. Area = $20(22) + \frac{1}{2} \pi (10)^2 = 597$ sq. ft.
5. $597 \div 150 \approx 4$ bags
6. $\$11.45 \times 4 = \45.80
7. Total number of students = 360

Since total number of students is the same as the measure of angles at the center of the circle graph, the angle for those who had A will be 19° , those with B is 220° , angle for C is 85° , angle for D is 15° and angle for F is 21° .



[10] PS -2

1. Measure the length of your foot and your height. Measure the length of the footprint.

Set up a proportion comparing your foot to the footprint and your height to x (Big Foot's height.) Additional answers are possible.

2. Find the area of the entire square, which is 10×10 or 100 sq. units.

Find half of that area, 50 sq. units. Additional answers are possible.

3. Possible answer:

Subtract the percents between E-bay and Education = $36\% - 12\% = 24\%$

Then multiply .24 by 1500 to get the difference between the number of people using it for E-bay and for Education .

[10] PS-3

1. $35 \times 20 = 700$ sq. ft. $700 \times \$2.50 = \1750 .
2. $300 \times 37 \frac{1}{2} = \11250 (cost of shares purchased)
 $300 \times 49 \frac{1}{8} = \14737.50 (income from sale of shares)
 $\$14737.50 - \$11250.00 = \$3487.50$ profit
3. $1550 \div 100 = 15.5$ hours
4. $32 \times 15.5 = 496$ gallons one way. Round trip would be 992 gallons of gas!

[10] PS-4

1. $AB = BC$ definition of midpoint
 $BC = CD$ definition of midpoint
 $\therefore AB = CD$ transitive property (things equal to equal things are equal)
2. $AB = BC$ given, $\therefore \angle 2 = \angle 3$ base angles of isosceles triangles are equal
 $m\angle 1 = m\angle 2$
 $m\angle 3 = m\angle 4$ vertical angles are congruent
 $m\angle 2 = m\angle 4$ transitive property
Other answers are possible.
3. Counterexample: $\angle 1$ could equal 20° and $\angle 2$ could equal 70° . Each angle is acute, but they are not equal to each other.

[10] PS-5

1. $1950 \times 90 + 350 \times 5 + 720 \times (1.50) + 400 \times (9.75) = \$182,230.00$
2. Fourth
3. No
4. Yes, but it also peaked the first year.
5. Third
6. From the third to the fourth year.
7. 37 ft. 23 in. or 38 ft. 11 in.